

Bellwether

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Philadelphia Pet Survey Leads to Rabies Prevention



ver a thousand Philadelphians answered a telephone call recently and discovered their pets were the focus of interest. The information was needed by VHUP Researchers Dr. Alan Beck, Dr. Larry Glickman and

Ms. Jody Smith to assist Philadelphia public health officials in developing rabies prevention strategies for the city. The number of pets unvaccinated for rabies and the pets and sections of the city at risk were some of the important questions studied in the city-wide survey.

Rabies vaccination statistics are particularly important to the city. In Philadelphia the last case of dog rabies occurred in 1948; however, recently rabies was discovered in a dog, a cat, a horse and in raccoons in nearby Chester and Delaware Counties. Beck pointed out that the rabies strain causing the epidemic is carried by raccoons and that the disease spills over from this population to other animal species. The large number of raccoons in Philadelphia makes such a spill-over possible.

Philadelphia's costs related to animal bite treatment would soar if any rabies cases occurred in the city, given the life-threatening nature of the disease. This is because a series of preventive rabies vaccinations is required for bite victims if the animal's vaccination status is unknown. The cost for the procedure is borne by the person or the City Public Health Department because most private health insurance plans do not cover this type of care.

To ensure protection of Philadelphians against rabies, all dogs and cats should be vaccinated regularly against the disease. This is mandatory under state law but difficult to enforce. Beck and Glickman proposed surveying Philadelphians to learn about their knowledge of rabies and about pet ownership patterns in order to target intervention strategies. Both pet owners and non pet owners were included in the survey since risk from animals bites exists for both. The study received support from the Philadelphia Department of Public Health and the Geraldine R. Dodge Foundation.

For the study the city's ten health districts, which will have responsibility for carrying out the programs, were grouped into four sections. The telephone survey, based on random digit dialing procedures, was conducted by Chilton Research, a national survey research firm, using 1288 households

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Dr. Detweiler Steps Down as Graduate Group Chair

Dr. David K. Detweiler, professor of physiology, has stepped down as chairman of the Graduate Group in Comparative Medical Sciences, a post he has held since the group's inception in 1970. Dr. Kenneth C. Bovee, Corinne and Henry Bower Professor of Medicine, has been appointed as the new chairman.

Dr. Detweiler's association with graduate studies here at the School dates back to 1954 when he was appointed head of the Veterinary Department in the Graduate School of Medicine, an institution affiliated with Graduate Hospital and established to facilitate the advanced training of physicians.

Graduate studies for veterinarians were not formally offered here at Penn until 1950 when graduate courses were first listed in the School's Bulletin. This coincided with an increasing interest in specialization in various areas of clinical veterinary medicine. Dr. Detweiler was instrumental in the development of veterinary cardiology as a clinical specialty.

In the early 1950s graduate work was offered through the Graduate School of Arts and Sciences, Division of Biological and Medical Sciences. With the establishment of the Veterinary Department in the Graduate School of Medicine (1954) veterinarians could also take graduate work there, receiving a M. Med. Sc. degree.

In 1970 the Graduate Group in Comparative Medical Sciences was created, under the auspices of the College of Arts and Sciences here at the University. The degree program was expanded to include a Ph.D. degree. This graduate group is one of 11 programs in biomedical graduate studies offered at the University. It is primarily for those with a degree in veterinary medicine, however, individuals with a degree in medicine or dentistry with a special interest in comparative medical science can also be considered for admission to the program.

"Many of our current faculty were trained in this program," said Dr. Detweiler. "Quite a few graduates of this program have gone on to positions in other academic institutions." Since 1970 33 individuals have earned advanced degrees in the Graduate Group in Comparative Medical Sciences. Twenty were awarded masters degrees and 13 achieved the Ph.D. degree. Currently there are 18 advanced degree candidates in the program.

There are two other graduate groups headquartered here at the School, the Graduate Group in Pathology and the Graduate Group in Parasitology. Recently the administration of these programs was combined and an administrator appointed to assist the chairmen.

Before Dr. Detweiler began his affiliation with the graduate program, course offerings were limited to veterinary bacteriology, virology and immunology, biochemistry, physiology, and pharmacology. During his long association with graduate studies he has been instrumental in the expansion of the program. Today the program description reads: 'This post-doctoral degree training program is offered for graduate veterinarians preparing for a career in academic medicine and research whose field of specialization requires multidisciplinary education in several basic medical sciences. Areas of specialization include: anesthesiology, cardiology, dermatology, gastroenterology, hematology, neurology, ophthalmology, radiology, renology, reproduction and obstetrics, Cardiac electrophysiology, cardiovascular toxicology, comparative cardiology, dermatology and allergy, electrocardiology, epidemiology, experimental hematology, hemodynamics, medical genetics, neurophysiology, nutritional physiology, oncology, ophthalmology, renal physiology, and reproductive physiopathology are among the areas of research actively pursued by the faculty.

The instructional program emphasizes preparation for a career in research rather than residency training in a clinical specialty.'

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distributed proportionally across the city. The dogs and cats estimates, derived from the survey, are accurate to within +/- 5 percent. The findings regarding types of pets is given in Table 1.

| Table 1 PET INCIDENCE IN PHILADELPHIA | | | |
|--|--------------------|----------------------|----------------|
| Pet | Percent Households | Number of Households | Number of Pets |
| Dogs | 18.0 | 113,630 | 143,468 |
| Cats | 17.9 | 113,141 | 171,648 |
| Ferrets | .2 | 1,469 | 2,938 |
| Birds | 3.0 | 19,102 | 19,102 |
| Fish tanks | 2.9 | 18,612 | 18,612 |
| Small mammals | 1.5 | 9,306 | 9,306 |
| Reptiles | .9 | 5,877 | 11,755 |

The same percentage of households, 18 percent, own dogs and cats; however the average number of animals per household differs. The average pet owning household contains 1.2 dogs and 1.5 cats. Thus, regarding domestic animals, there are approximately 20 percent more cats than dogs in Philadelphia, and together they number nearly a third of a million. Currently birds and fish are approximately equal in popularity.

The way in which Philadelphia was divided for the study is shown in Figure 1. Table 2 shows the dog and cat population in each Area. The Northwest section of the city, i.e. Germantown, Mt. Airy, W. Oak Lane, Roxborough, and Chestnut Hill, have on the average more animals per pet owning household, 1.6 dogs and 1.6 cats. Nevertheless, Lower North Philadelphia, Center City, and South Philadelphia, designated Area 1, have the largest number of both dogs and cats. The second largest number is found in Northeast Philadelphia (Area 4), i.e. the Near Northeast, Frankford, and the Far Northeast. The Northwest is third in the dog and cat count and West Philadelphia and Southwest Philadelphia, which together comprise Area 2, are ranked fourth.

Dogs were considerably more likely to have had a rabies vaccination than cats. The vaccination rates obtained from owner reports were 63 percent of dogs

vaccinated for rabies within the last year versus 49 percent of cats. The survey revealed that approximately 140,000 Philadelphia cats and dogs were not vaccinated for rabies within the last twelve months.

In the current phase of the work being carried out by Beck, Glickman, and Smith questionnaire data from veterinarians in the city and immediate suburbs are being analyzed. Later, information will be obtained from physicians who are likely to be involved with the treatment of bites.

The Veterinary School is interested not only in better understanding the epidemiology of rabies in animals, but also is working with local health authorities to develop more effective prevention strategies. Both efforts will require more accurate information on the relationship between people and their pets. Thus, it is not surprising that the rabies survey is part of the educational and research program of the Center for the Interaction of Animals and Society at the Veterinary School.



| Table 2 TOTAL POPULATIONS | | | | | |
|------------------------------|----------------------|-------|--------------|-------------------------------------|-------------------|
| Dog Population | | | | | |
| AREA ¹ | No. HHS ² | (%) | % HHS w/Dogs | Avg. No. Dogs/ Dog-Owning HHS | Total No. Dogs |
| AREA 1 | 224,143 | (35) | 25 | 1.2 | 67,236 |
| AREA 2 | 113,235 | (18) | 13 | 1.2 | 16,438 |
| AREA 3 | 130,749 | (21) | 10 | 1.5 | 19,509 |
| AREA 4 | 162,718 | (26) | 21 | 1.2 | 40,285 |
| TOTAL | 630,845 | (100) | 18 | 1.2 | 143,468 |
| Cat Population | | | | | |
| AREA | No. HHS | (%) | % HHS w/Cats | Avg. No. Cats/ Cat-Owning HHS | Total No. Cats |
| AREA 1 | 224,143 | (35) | 21 | 1.5 | 68,415 |
| AREA 2 | 113,235 | (18) | 15 | 1.4 | 24,435 |
| AREA 3 | 130,749 | (21) | 14 | 1.6 | 30,193 |
| AREA 4 | 162,718 | (26) | 20 | 1.5 | 48,605 |
| TOTAL | 630,845 | (100) | 18 | 1.5 | 171,648 |
| Dog and Cat TOTAL | | | | | 315,116 |

¹ See Map for Area boundaries.
² HHS = Households.

