

## PROPOSAL

### MADDIE'S SHELTER MEDICINE PROGRAM at Cornell University, College of Veterinary Medicine

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## Executive Summary

Achieving a no-kill society, where euthanasia of healthy and treatable dogs and cats in animal shelters ceases to be used for population control, will require the full-fledged participation of veterinarians. Training in population medicine for companion animals, with its emphasis on disease prevention and population health, is essential to veterinarians working with or for animal shelters and for those that will become practitioners treating animals from shelters. Knowledge of diseases, conditions and behavioral problems common to shelter animals, the difficulty in controlling them in shelters, their treatment and, most importantly, their prevention, is essential to preparing veterinarians to work optimally with shelters. The focus of this proposal is on offering specialized residency training for veterinarians in shelter medicine. We will do so by establishing a shelter medicine program named the *Maddie's Shelter Medicine Program at Cornell University, College of Veterinary Medicine*. The program will be named in perpetuity in honor of Maddie, the miniature schnauzer, for whom the Maddie's Fund was created.

The training program will include classroom instruction, in-shelter tutelage by shelter veterinarians, research experience and teaching opportunities in the classroom and with individual students. Graduates of the shelter residency program will also be awarded a Masters of Science Degree in Epidemiology. In addition, the training of veterinary students regarding shelter medicine will be extended through enhanced in-class instruction and meaningful shelter externships. Four shelters, three no-kill and one traditional shelter, will serve as the base of training for the residents and veterinary students. The shelters will benefit from the expert advice and research associated with the program.

Veterinarians are key participants to achieving no-kill communities. They are acknowledged animal experts with the public respect that *should* make them enthusiastic participants, if not leaders, in achieving communities where euthanasia of healthy (adoptable) and treatable animals ceases to exist. Without training and commitment to animal welfare, however, they can act as adversaries or, at best, reluctant participants. Our goal is to educate veterinarians and veterinary students to assist shelters optimally and become committed team players and leaders in their communities to eliminate the killing of adoptable and treatable animals.

## **Introduction**

The Cornell University, College of Veterinary Medicine proposes to establish the *Maddie's Shelter Medicine Program at Cornell University, College of Veterinary Medicine*. Cornell was the first veterinary college in the country to recognize the importance of educating veterinary students about the health and welfare of shelter animals by creating a shelter medicine course. Our students were the first to establish a student organization, Veterinary Students for the Prevention of Cruelty to Animals, devoted to the care of shelter animals. The establishment of a shelter medicine residency training program and augmentation of our teaching opportunities will enable us to build on our commitment to saving the lives of shelter animals and providing for their welfare. The core no-kill philosophy will permeate all aspects of the program, demonstrating humane, non-lethal strategies for management of companion animal populations. We are requesting a six year, \$1.7 million grant from the Maddie's Fund to create this program.

## **Justification**

Approximately 4,700 animal shelters in the United States care for over 15 million dogs and cats annually.<sup>1</sup> Estimates suggest that this represents about 5-10% of the nation's owned dogs and cats.<sup>2</sup> All animals entering shelters are stressed, enhancing their vulnerability to disease. Many are debilitated, either because of prior injury or disease, and the young are particularly susceptible to acquiring infectious diseases, often with serious consequences.<sup>3,4</sup> Illness in both traditional and no-kill shelters delays adoption and causes suffering. Entrance with or development of disease in traditional shelters can be tantamount to a death sentence, as infected animals pose a risk to others and sick animals are often chosen first for euthanasia in already crowded facilities.

The sources and quality of veterinary care vary widely among shelters. Many, especially large shelters, have veterinarians on staff; other shelters have cooperative arrangements with community veterinarians to provide care for their animals and still others desperately seek regular assistance. The scope and quality of veterinary services also vary widely. Veterinary services range from only rabies vaccinations, to neutering, to full preventive and palliative medical and surgical services.

Providing quality care for animals in shelters requires a variety of skills, many of which are not taught routinely in veterinary colleges. For example, providing optimal care requires a population-, as well as an individual animal-care perspective. Traditionally, the focus of companion animal veterinary training has been on the care of the individual animal. "Herd health" or population health concepts have been taught in the context of food animals, and in many veterinary colleges, these courses are optional and taken only by those planning careers in food animal medicine. Millions of dogs and cats, however, enter animal shelters each year and are housed, fed, and cared for together. Sharing common air sources, common caretakers and often common food, water and living spaces, makes the health of the population a primary concern which strongly influences the health of individuals in these populations.

Concerns for behavioral issues are growing. For moral and legal reasons, reliable and validated temperament screening programs for the detection of dangerous animals and

the optimal placement of animals must be adopted and implemented in shelters. Knowledgeable veterinarians must minimally be familiar with these screening techniques and capable of recognizing animals that require behavioral modification. The expansion of the no-kill philosophy has fueled the growth of facilities dedicated to non-lethal strategies for saving lives. These organizations need good protocols and guidance with housing, emphasizing long-term wellness, including maintenance of physical and behavioral health. Optimal protocols will arise from good research that identifies and evaluates their effectiveness in the very facilities that will use them.

The regard with which shelter medicine is perceived within the veterinary profession has been minimal. Stories are common among shelter veterinarians of colleagues offering their sympathy when shelter positions were first accepted. Criticism of the health of animals from shelters and of shelter programs from veterinarians is commonplace in many communities. Fear of competition from low- or no-cost neutering programs often alienates veterinarians from shelters and fuels animosities between the two groups that could and should do the most to improve the welfare of companion animals.

The creation of shelter medicine residency training programs will enhance the visibility of shelter medicine and elevate its status in the veterinary profession. When sufficient residency programs are created, Board Certification in Shelter Medicine can be pursued.

Training and commitment to the no-kill philosophy for the management of companion animal populations, shelter medicine and other companion animal issues should begin during veterinary training. Many practicing veterinarians are poorly informed about humane issues in general and, specifically of the history and growth of the no-kill movement. Exposing veterinary students to these issues before graduation will insure a new generation of veterinarians with fresh approaches to pet overpopulation and their role in seeking solutions to it. Since residency training opportunities are likely to remain limited in the foreseeable future, many veterinarians working for and with shelters will not benefit from formal advanced training. Therefore, providing training for students regarding the principles of shelter medicine and promoting veterinary participation and leadership in companion animal welfare issues while in veterinary college is imperative. Also, providing continuing education opportunities to veterinarians currently working with shelters is essential.

Analogous to training in ambulatory medicine, students and residents must train in shelter populations similar to those they will ultimately serve. They must observe the environment, understand the goals of no-kill and traditional shelters and their respective programs, interact with shelter personnel, and encounter the medical and behavioral problems as they occur. This necessitates in-shelter training and will require close collaboration between college personnel (members of the shelter medicine programs, other faculty) and shelter personnel (shelter veterinarians, executive staff and other staff). Both collaborating groups (College and shelters) will benefit - the College by facilitating resident and veterinary student training and research, and the shelter with improved diagnostic support and access to knowledge and expertise.

Research regarding infectious diseases in shelter populations is currently limited. Since knowledge is fundamental to quality training and informed diagnostic and consultative

support, research regarding shelter medicine will also be a key element of the proposed program. Dissemination of the research results through publications, continuing education programs, etc. will benefit not only the participating shelters, but also shelters throughout the country.

## **Elements of the Program**

The proposed Maddie's Shelter Medicine Program will have four components:

- I. residency training;
- II. veterinary student training
- III. a shelter diagnostic and consultative support service and
- IV. shelter medicine research.

### **I. Resident Training**

A three-year residency will be established. Since there currently is no Board Certification in Shelter Medicine, Maddie's Shelter Medicine Residents will be certified by the College of Veterinary Medicine at Cornell as proficient in Shelter Medicine at the completion of their program. These residents will also complete training for a Masters of Science in Epidemiology.

During **year 1** the Maddie's Shelter Medicine Resident will begin clinical rotations, spending three months on the Community Practice Service (CPS) and start a series of rotations through other services including emergency and critical medicine, parasitology, pathology, the Animal Health Diagnostic Laboratory and the Feline Health Center. Rotations through these services will provide training, introduce the resident to key faculty and staff in the College who will augment their training, serve as resources, and facilitate their interaction with collaborating shelters. The residents will be expected to attend Maddie's Shelter Medicine Rounds, Infectious Disease Rounds, Behavior Rounds, other pertinent rounds, visit the Tompkins County SPCA weekly with veterinary students, and attend other pertinent presentations or activities in the College.

The resident will begin the epidemiology course sequence, taking the introductory and second-level courses, as well as the *Preventive Medicine and Issues in Animal Shelters*, *Managing Infectious Disease in Small Animal Populations*, and *Problems in Dog and Cat Behavior courses*. Also, he/she will rotate in 2 "core" and 2 "affiliated" shelters, beginning an assessment of each shelter's medical and behavioral programs and assist shelters in developing and implementing protocols for disease prevention, treatment and control. These courses and rotations will apply towards the Master's degree. The core shelters include 1 traditional and 1 no-kill shelter, and the affiliated shelters are both no-kill shelters. Descriptions of the 4 collaborating shelters and the definition of a no-kill shelter in this grant are provided in Appendix I.

By the end of the first year the resident will be expected to complete an evaluation of shelter's health-related programs and submit a written evaluation to faculty for review and discussion with each collaborating shelter. Resident progress will be reviewed annually and continuation in the second and third years will be contingent on satisfactory performance in the preceding year.

In **year 2**, the resident will rotate through the Behavior Clinic and continue other rotations in the College. The resident will gradually assume more responsibility for counseling shelters, independent of faculty and the Maddie's Shelter Medicine Clinician. He/she will collaborate with shelter veterinarians, administrators and other staff, extending his/her knowledge of the breadth of shelter activities and programs. The shelter medicine resident will concentrate on activities such as writing/evaluating shelter-specific disease-related protocols, responding to disease outbreaks, working closely with staff of the diagnostic laboratory and pathology service to diagnose and control disease in participating shelters, and designing and conducting quality foster care programs. The resident will make appropriate recommendations to improve the health and behavior of shelter animals based on his/her assessment of the shelters and collaborate with shelter personnel to implement changes.

The resident's Master's Graduate Committee and a research project will be identified by early in the second year. The resident will take additional course-work regarding statistics, infectious diseases, etc. that will enable him/her to design, conduct and analyze his/her project. The Maddie's Shelter Medicine Resident's research projects will meet the following criteria: 1) research projects will investigate health issues that are directly relevant to no-kill shelters. They will focus on understanding and optimizing the health of animals in no-kill facilities; 2) all research projects will include data collected from no-kill shelters to address issues important to those shelters. Funding for research projects will be sought from the Dean's Fund for Clinical Excellence and the Feline Health Center which exist in the college. In addition, funding will be sought from outside funding agencies. During the second year the resident will assist in the instruction and supervision of veterinary students regarding Maddie's Fund goals and other shelter-related issues. The second-year resident will also help supervise visits of veterinary students to the Tompkins County SPCA, a core shelter. Consultations during the first and second years will be made under the supervision of the Drs. Scarlett and Houpt, the Maddie's Shelter Medicine Clinician (to be hired), and other College faculty.

In **year 3** the resident will finish any remaining rotations, consult independently with collaborating shelters, assist with veterinary student supervision, complete his/her research and produce a publication, and present results at a national meeting.

Each year the shelters outside of Ithaca will be visited at least two times monthly and the Tompkins County SPCA will be visited 2–3 times weekly. The travel costs will be borne by the College of Veterinary Medicine. As his/her training progresses, the resident will increasingly assume more responsibility for consulting independently with shelters. Although more animals are handled in the one traditional shelter than in the three no-kill shelters, the resident will spend at least 75% of his/her in-shelter time working in no-kill facilities. He/she will be immersed in service-learning - learning while providing

essential preventive medicine services to the shelters in collaboration with each shelter's veterinary staff and the Maddie's Shelter Medicine Clinician.

**Summary of residency training:** Each resident will provide a minimum of 52 weeks of consultative medical service to collaborating shelters under the supervision of the program director, Maddie's Shelter Medicine Clinician and the collaborating shelter veterinarians. He/she will similarly consult with other shelters on an as-needed basis, with priority given to no-kill shelters. While the emphasis of the training program will be clinical, each resident will also rotate through pertinent veterinary services, take coursework, design and implement a research project and publish his/her results in a peer-reviewed scientific journal.

## **II. Veterinary Student Training**

An elective course, *Issues and Preventive Medicine in Animal Shelters*, is currently taught to veterinary students. It was developed to enhance veterinary student training in shelter medicine and companion animal welfare during the Fall of 1998 and first offered in the Spring semester of 1999. We completed our sixth year of teaching this course in the Spring of 2004. The course has two major areas of emphasis. The first focuses on *issues* including the history of the humane movement (including the no-kill revolution), the evolution of companion animal welfare, the elevation of animal status, the pet surplus problem and other issues associated with companion animal welfare. The second focus is on *shelter animal medicine* and includes principles of infectious disease prevention and control in shelter animal medicine, diseases/conditions common to shelter animals and preventive health care programs in shelters. Students taking this course will visit the Tompkins County SPCA during the class. Travel costs will be borne by the College of Veterinary Medicine.

We received faculty permission to offer a second course entitled *Managing Infectious Disease in Small Animal Populations*. The instructional funds requested in this proposal will be used to embellish this course in the Spring of 2006. This course focuses on the prevention, control and treatment of specific infectious diseases, discussing approaches in both no-kill and traditional shelters equally. Information and experience gained by working and doing research with the 3 participating no-kill shelters will insure that principles and examples of disease management in no-kill shelters will be emphasized. Trips to Pet Pride of New York, Inc. and to the Humane Society of Rochester and Monroe County at Lollypop Farms (collaborating shelters in the residency training program) are planned as a requirement of this course. Student visits to Rochester will be divided equally between Pet Pride (a no-kill shelter) and Lollypop Farms (a traditional shelter).

Teaching material in the core courses (taken by all veterinary students), *Host, Agent and Defense* (HAD) and *Animals, Veterinarians and Society* (AVS), will be further augmented with knowledge and examples identified in this program. Having examples and research originating from three no-kill and one traditional shelter will insure that students learn strategies for optimizing the health of animals in both no-kill and traditional facilities. This has already happened as a direct consequence of the Veterinary Students for the Prevention of Cruelty to Animals (VSPCA) activities initiated in 1998 at

the Tompkins County SPCA and Dr. Scarlett's efforts to introduce all students to the shelter. Now *all* first-year students rotate through this no-kill shelter in their first year of training with the goals of enhancing their physical examination skills, learning about shelter medicine, the no-kill philosophy, discussing the tragedy of unnecessary euthanasias and providing veterinary care to shelter animals in the course, *Animals, Veterinarians and Society*.

Also, through Dr. Scarlett's efforts all students now hear lectures relating to shelter preventive medicine, outbreak investigation, disease management, and vaccination in animal shelters.

During the second year of the program, an elective rotation in Shelter Medicine, sponsored by the Maddie's Fund, will be created for veterinary students that will include 2-3 weekly visits to the Tompkins County SPCA and at least 2 visits to the Peace Plantation or Pet Pride, Inc.

Both the American Society for the Prevention of Cruelty to Animals (ASPCA) and the Humane Society of Rochester and Monroe County at Lollypop Farms currently offer subsidized externships to Cornell veterinary students. This has allowed our students to visit both a traditional (Lollypop Farms), as well as a no-kill facility (ASPCA) with some assistance with expenses for these experiences. The students who have returned from these experiences, working one-on-one with shelter veterinarians, rave about what they have learned. There is probably no more persuasive and eye-opening experience for veterinary students to help them formulate their perception of shelter medicine and shelter issues. For this reason we are requesting additional funds to create Maddie's Shelter Medicine Externships that will offset expenses associated with these and other externships to no-kill shelters. Currently only students who can live with relatives or friends in the New York City area have taken advantage of the ASPCA externship because the \$1,000 stipend (offered by the ASPCA) does not cover housing expenses near the shelter. Additional funding would 1) enable more students to visit the ASPCA, 2) allow students doing an externship at Lollypop (in Rochester, NY) to split their time between a traditional shelter and a no-kill facility (Pet Pride, Inc), and 3) encourage externships at other no-kill facilities. A list of no-kill shelters, including the San Francisco SPCA, will be maintained for student consideration for their externships.

### **III. Maddie's Shelter Support Service**

Maddie's Shelter Support Service will provide the following services:

#### **Diagnostic Support**

Practicing herd health *requires* information about the nature and frequency of disease problems in the population. Infectious disease agents continue to be the cause of the leading health problems in shelters today. Characterizing the nature and frequency of endemic disease, evaluating the effectiveness of control and prevention strategies and diagnosing the cause(s) of outbreaks require diagnostic support. The fact that shelters selected to collaborate in the Maddie's Shelter Medicine Program include three no-kill shelters and one traditional shelter (and the number of animals at those no-kill shelters

will be at least 25% of dogs and cats served in the core shelters) will enable us to study agents in no-kill facilities and provide the basis for optimizing the health care for animals in these and other no-kill facilities, as well as in traditional shelters.

The Animal Health Diagnostic Laboratory (including virology, bacteriology, mycology, parasitology and clinical pathology) and the pathology diagnostic service will provide these services. The emphasis of diagnostic work-ups will be for the evaluation of the population – to identify the cause of the problems, develop problem-specific preventive or control strategies, evaluate the effectiveness of the strategies and identify causes of outbreaks. Funding for these efforts is concentrated in the first 2 years where characterization of the primary pathogens circulating in the collaborating shelters will be imperative. Once characterized, fewer funds will be needed to monitor control efforts and targeted research projects with funding procured from other sources will be used to augment funds from the grant. Collaborating shelters will continue to provide resources for individual animal care and the intent of the funds requested for diagnostic support in this proposal is for population evaluation only (not for individual animal care).

### **Medical Support**

The Maddie's Shelter Medicine Clinician and Resident will provide consultative medical support for the veterinarians serving the core shelters. They will advise shelters regarding preventive medicine strategies (e.g., vaccination protocols, animal movement, anti-microbial treatment) to eliminate or minimize disease in the shelters. In return, shelter veterinarians will assist in the training of residents within their facilities, as well as collaborate on the nature and conduct of research projects designed to improve the health of animals in the shelters.

We have planned 2 trips per month the first year to each out-of-town shelter, with the exception of the Tompkins County shelter which we will visit 2-3 times weekly.

## **Maddie's Shelter Medicine Website and communication**

Contact between members of the Maddie's Shelter Medicine Program and the collaborating shelters will be maintained through email, shelter visits and telephone contact for both medical and behavioral questions. This website will be linked to Maddie's central website and acknowledge the enduring contribution Maddie's life made to the Duffield family and in whose honor and memory the shelter medicine program is named.

A Maddie's Shelter Medicine website at Cornell will be developed to disseminate information both to collaborating and other interested shelters. Material for the website will be derived from the literature, research findings from the Maddie's Shelter Medicine Program and experience in the collaborating shelters and will be continuously expanded.

With time, we anticipate responding to questions from non-collaborating shelters once the program in collaborating shelters is well established. Priority will be given to questions from no-kill shelters.

### **IV. Maddie's Shelter Medicine Research Program**

Relatively little research has been published regarding either medical or behavioral problems, protocols, etc. in shelters. Research will be an essential component to both the training and service aspects of the proposed program. Maddie's Shelter Medicine residents will be required to complete and publish a research project in a peer-reviewed journal of a research project meeting the following criteria: 1) research projects will investigate health issues that are directly relevant to no-kill shelters. They will focus on understanding and optimizing the health of animals in no-kill facilities; 2) all research projects funded by the program will include data collected from no-kill shelters to address issues important to those shelters. Faculty collaborators in the program have agreed to mentor and participate in appropriate resident research projects. Having the ability to conceptualize, conduct and evaluate small clinical research projects in shelters will be an important skill acquired by residents and enable them to evaluate the effectiveness of programs and protocols utilized in shelters in the future.

Residents will be expected to present their results at Maddie's Shelter Medicine Rounds and at a national meeting before completing their residency. Additional funding for resident and faculty research will be sought from a variety of sources: The Dean's Fund for Clinical Excellence, the Feline Health Center and interested Foundations exterior to the College. Previous funding from the Kenneth A. Scott Trust, the Winn Foundation, PETsMART Charities, etc. has been obtained and will be sought for research projects. Publications, presentations and news releases resulting from or regarding the Maddie's Shelter Medicine Program will always acknowledge Maddie's Fund support. Research findings resulting from the Program will be posted on the Maddie's Shelter Medicine website for dissemination to interested parties.

Faculty are and will continue to be actively engaged in shelter medicine-related research. Currently, both Drs. Houpt and Scarlett have research projects relating to shelter medicine and behavior issues, as well as animal welfare.

## **College Support for the Program and Naming in Perpetuity**

The College is strongly committed to securing additional external resources to sustain the program long-term. To assure that the college will be successful in identifying external support, the Dean will work with Program personnel to evaluate progress made towards those goals and work vigorously to achieve them. This will ensure that, through a combination of college and external resources, the program will be gradually incorporated into the College's mainstream budget over the next six years, so that as the Maddie's funding comes to a close, the college will be able to sustain the program. The College is committed to continuing the Maddie's Shelter Medicine Program in perpetuity although the program may be modified, if necessary, after the funding period.

Cornell University is pleased to name its shelter medicine program in perpetuity, the *Maddie's Shelter Medicine Program at Cornell University, College of Veterinary Medicine*. The Maddie's Shelter Medicine Program is named in honor of Maddie, the miniature schnauzer, for whom the Maddie's Fund was created.

## **Program Evaluation**

The program's effectiveness will be evaluated using various approaches.

### *Training*

Resident: the quality of the residency will be assessed by a) a resident advisory committee that will be composed of 3-4 program faculty. The committee will oversee the resident's training program, monitor progress, evaluate the knowledge and skills of each resident and ultimately certify proficiency in shelter medicine; b) veterinarians supervising residents in the core shelters will provide an annual written evaluation to the resident's advisory committee. These veterinarians will also communicate monthly with program personnel (director, supervising clinician) during periods when the resident is in the respective shelters.

Veterinary students: veterinary student understanding will be assessed with periodic surveys of student knowledge and attitudes as well as, traditional grades in pertinent courses.

### *Program effectiveness in shelters*

All collaborating shelters will provide baseline information regarding basic shelter statistics including data regarding adoptions, returns to owner and euthanasias among animals categorized as healthy, treatable and non-rehabilitatable. The basic statistics to be requested are provided in greater detail in the attached shelter application. In addition baseline data regarding the morbidity due to common shelter-associated diseases (e.g., kennel cough, feline upper respiratory disease, parvovirus infection) will be estimated. A

surveillance program for each shelter will be designed to monitor the effects of recommendations made by the shelter medicine program. This will enable us to assess the impact of program recommendations on the numbers of healthy, treatable, non-rehabilitatable and euthanized animals in the shelters. Shelters will also complete a comprehensive questionnaire and interview to assess the value of the program to each shelter. Constructive comments from the shelters will be encouraged to improve the program.

Monthly verbal progress reports will be made to the Maddie's Fund, describing the progress and impact of the program. Collaborating statistics will be shared with Maddie's Fund semi-annually and written progress reports will be sent annually to the Maddie's Fund, followed by meetings with representatives of the Maddie's Fund to review and discuss yearly progress.

### **Program Personnel**

Dr. Janet Scarlett will direct the program and be responsible for the development, maintenance and evaluation of all aspects of the program. Dr. Scarlett is an epidemiologist with a Master's in Public Health, a PhD in Epidemiology and over 20 years experience working on companion animal disease problems. She has been a tenured faculty member at Cornell and does not plan career changes in the near future. For the past 8 years she has been working in the small animal welfare field and consulting with regional animal shelters. She co-teaches the current shelter medicine course, serves on the Animal Issues Committee and Board of the Tompkins County SPCA and has established close ties with the American Society for the Prevention of Cruelty to Animals (ASPCA) and the Humane Society of Rochester and Monroe County at Lollypop Farms. Over 20 students have completed externships in these two organizations. Dr. Scarlett will also write grants for research projects, supervise their conduct, and oversee publication and presentation of research results at national meetings.

Dr. Katherine Houpt, Director of the Behavior Clinic, will assist in the behavior training of the resident and teach shelter-related behavioral issues and problems to veterinary students. Dr. Houpt supervises shelter behavior research projects for veterinary students.

A Maddie's Shelter Medicine Clinician with experience working in shelters will be hired to provide clinical, teaching and service support to the program. He/she will work closely with the residents and veterinary students (similar to the ambulatory clinicians) in providing service to the shelters, act as liaison to the diagnostic laboratory and other services and augment the teaching program. More specifically he/she will participate in veterinary student teaching in the classroom, teach (with Dr. Scarlett) the Shelter Medicine Rotation sponsored by the Maddie's Fund, and lead weekly Maddie's Shelter Medicine Rounds.

A Maddie's Shelter Medicine Technician will be hired to provide laboratory, and in-shelter advise regarding data entry and management (under the direction of the Section of Epidemiology) to shelters and other personnel. He/she will assist: 1) in scheduling shelter visits; 2) development of disease and behavior surveillance programs including

shelter-specific databases; 3) generation of monthly reports to participating shelters and the program director; 4) assist in data analysis; 5) answer telephones; 6) work with college web master to develop and maintain a Maddie's Shelter Medicine website at Cornell.

Collaborating Faculty: Faculty in the veterinary hospital (e.g., Drs. Hornbuckle - Community Practice Service, Dr. Barr - Infectious Diseases) will provide in-hospital training and supervision of residents. Drs. Dubovi and McDonough in the NYS Animal Diagnostic Laboratory will train and consult with residents, the shelter medicine clinician and the shelters regarding diagnostic testing, sample collection and interpretation. Dr. Richards, Director of the Feline Health Center, will assist in training, continue consulting about feline infectious disease problems in regional shelters and provide competitive funding for shelter-related projects. Drs. Bowman and an emergency care clinician will consult with residents about parasitology and emergency care, respectively. Dr. Grohn, Chairman of the Department of Population Medicine and Diagnostic Science and Dr. Gilbert, Associate Dean of Clinical Programs will have administrative responsibility for seeing that the program is implemented within the veterinary college.

## **Budget Justification**

### **Personnel**

Dr. Scarlett will serve as the Director of the Maddie's Shelter Medicine Program. Her responsibilities will include: 1) hiring and supervision of program personnel; 2) development of the shelter medicine training program; 3) enrollment of shelters; 4) coordination of the two shelter medicine courses; 5) supervision of research projects; 5) budget management; 6) serving as faculty mentor for interested veterinary students and faculty advisor for the VSPCA. She will also continue her faculty responsibilities of teaching in the Host, Agent and Defense foundation course, the Clinical Biostatistics graduate course and her current research projects.

A Maddie's Shelter Medicine Clinician with shelter experience will be hired to provide 1) clinical and preventive medicine support for participating shelters; 2) in-shelter supervision and coordination of the medicine residents; 3) in-shelter training of veterinary students; and eventually 4) assist in shelter medicine teaching. He/she will work closely with the residents and veterinary students in providing service to the shelters, act as liaison to the diagnostic laboratory and other College services and augment the teaching program. More specifically he/she will participate in veterinary student teaching in the classroom, and lead weekly Maddie's Shelter Medicine Rounds. This person is essential to establish program credibility, to provide clinical expertise, and to serve as the principal liaison between the shelters and the college.

A Maddie's Shelter Medicine Technician will be hired to provide coordination between shelters and the University by providing laboratory, in-shelter, data management and analytic assistance to shelters and other personnel. He/she will: 1) assist in scheduling shelter visits; 2) assist in the maintenance of disease and behavior surveillance programs including shelter-specific databases; 3) generation of monthly reports to participating

shelters and the program director; 4) support data collection and analysis; 5) answer telephones; 6) work with college web master to develop and maintain a Maddie's Shelter Medicine website at Cornell.

### **Academic Development**

As an employee of Cornell, the resident will be eligible to participate in the Cornell Employee Degree Program. Cornell pays tuition and fees for participants in this program, enabling the resident to obtain a Master's Degree in Epidemiology. This program does not provide for education-associated expenses (e.g., books, supplies). Funds are requested to cover these expenses.

Maddie's funding will be used to fund a new second course in the series of shelter medicine offerings. The \$2,000 requested will be used to expand and embellish this course (e.g., literature gathering, powerpoint presentations, speakers).

Funds are also requested to assist veterinary students in defraying the costs associated with doing externships at animal shelters. We have had over 20 students participate in externships over the past 5 years. In my experience, no other single experience has been more successful in motivating student interest in the no-kill philosophy and shelter medicine than these externships. Our students have worked principally at the no-kill shelter at the ASPCA and at the Humane Society of Rochester and Monroe County at Lollypop Farms, but those who had sufficient personal funding have done externships in shelters in Chicago and Arizona. Currently the American Society for the Prevention of Cruelty provides 2 to 3 \$1000 stipends for externships at their shelter in NYC. Unfortunately, only students with family or friends in the New York City area have taken advantage of this externship because the \$1000 stipend does not cover their living expenses. Similarly, the Humane Society of Rochester and Monroe County at Lollypop Farms provides lodging for all students doing externships at their facility, but we are requesting funds to enable students to also divide their time equally with Pet Pride, Inc. (a no-kill facility also in Rochester, NY). Other students have expressed an interest, but need financial assistance to offset expenses incurred. The \$2,900 requested would be used to provide additional support to these students and will be used to support externships only at no-kill shelters that have a full-time veterinarian.

### **Development and Management of Shelter Databases and Statistical Analyses**

The Section of Epidemiology will develop the databases for medical data entry for the four collaborating shelters during the first year. Thereafter, they will maintain those databases, providing backup, assisting with data entry, and checking data for entry errors. In addition, they will generate ongoing graphs of disease trends, make statistical comparisons across time and among shelters and provide analytic support for the research projects (including the resident's project).

### **Supplies and Services**

Funds requested herein include xeroxing, posters advertising the program, notebooks, databooks, signage and costs for publications. Telephone and internet connection costs for personnel associated with the program are also requested.

## **Computers/ printers**

Three computers with printers will be purchased and shared by the resident, shelter clinician and technician in the first year of the program. The computer used by the technician will have greater computational ability to conduct sophisticated analyses on research data collected. Funds in year 4 have been included to upgrade at least some of the computers and software as necessary.

## **Diagnostic Testing**

Diagnostic testing will be the *cornerstone* of the preventive and palliative shelter medicine programs in participating shelters. Good information about the nature of the pathogens circulating in shelters and their sensitivity to various treatments are largely unknown. Without this specific information, epidemiologically sound recommendations cannot be made to reduce the occurrence and likelihood of disease and monitor the effectiveness of control programs. Laboratory testing will be done in all 4 shelters during the first three years to characterize and quantify the occurrence and persistence of agents circulating in each. The testing will be done by the Animal Health Diagnostic Laboratory at Cornell University and by other laboratories (as needed). Diagnostic testing in years 4-6 will be supported by funds obtained with research grants.

## **Maddie's Website development and maintenance**

An appealing and informative website will be our main tool to communicate with non collaborating shelters. It will be linked to the Maddie's Fund central website. It will promote the residency program and share important information with shelters around the world. The funds in the first year will pay for development of the site and will begin immediately after receipt of funding. We will use in-college website designers to assist us. Funds for remaining years are requested for web maintenance.

## **Recruitment costs**

Funds are requested to recruit an enthusiastic, knowledgeable, shelter clinician from the many veterinarians employed by shelters across the country. Funding to support advertisements is essential to identifying an excellent candidate.

## **Annual Increases**

A 5% annual salary increase for all personnel has been allowed. The fringe rate was calculated at 46.48%, 48.68% and 50.68% for years 1 and 2, years 3 and 4, and years 5 and 6, respectively, to allow for changes over the period of the grant.

Similarly, increases in other program costs such as supplies, research support for residents and instructional expenses have been estimated at a 5% increase per year. Exceptions have been noted where appropriate.

## **Appendix I Collaborating Shelters**

### **Definition of No-kill**

Participating no-kill shelters in this grant save all the healthy (adoptable) and treatable animals under their care, with euthanasia reserved only for nonrehabilitatable animals. Two of the collaborating no-kill shelters are animal shelters and one is a sanctuary.

As participants in the Maddie's Shelter Medicine Program, the no-kill shelters will (1) save all healthy (adoptable) and treatable animals under their care and make a public their commitment to doing so; (2) clearly articulate to their communities that they are saving all healthy (adoptable) and treatable animals under their care; (3) use the definitions of healthy (adoptable) and treatable as defined by Maddie's Fund, and (4) publish, at least annually, in each organization's primary publications and on each shelter's website, the organization's shelter statistics, including the number of live intakes, adoptions, redemptions, transfers, died in kennel, and euthanasias, including owner-requested euthanasias.

### **Names of the Core Shelters**

#### **Tompkins County SPCA**

1640 Hanshaw Road

Ithaca, NY 14850

Telephone: (607) 257-1822

FAX: (607) 257-5470

Website: [www.spcaonline.com](http://www.spcaonline.com)

Executive Director: Dr. James Tantillo

Veterinarian(s): Full-time veterinarian (to be hired)

Type of shelter: no-kill (with animal control)

Animals handled annually

Dogs: 1,200

Cats: 1,800

#### **The Rochester and Monroe County Humane Society at Lollypop Farms**

99 Victor Road, P.O. Box 299

Fairport, NY 14450

Telephone: (585) 223-1330

FAX: (585) 425-4183

Website: [www.lollypop.org](http://www.lollypop.org)

Executive Director (Acting): Mr. Richard Gerbasi

Veterinarians: Dr. Andrew Newmark (full-time)

Dr. Christina Cadavieco (full-time)

Type of shelter: Traditional (with no animal control)

Animals handled annually:

Dogs: 5,200

Cats: 7,800

### **Names of Affiliated Shelters**

**Pet Pride of New York, Inc.**

7731 Victor-Mendon Road

Victor, NY 14564

Telephone: (585) 742-1630

FAX: (585) 742-1641

Website: [www.spcasonline.com](http://www.spcasonline.com)

Founding and Executive Director: Ms. Jacqueline Russell

Veterinarian: Dr. Stuart Gluckman (contract veterinarian)

Type of shelter: no-kill

Animals handled annually

Dogs: None

Cats: 150

**Peace Plantation Animal Sanctuary of New York**

Route 3, Box 84

Walton, NY 13856

Telephone: (607) 865-5759

FAX: (607) 865-6334

Website: [www.ppasny.org](http://www.ppasny.org)

Executive Director: Mr. Michael Reed

Veterinarian: Dr. Rebecca Wally (part-time)

Type of shelter: No-kill sanctuary

Animals handled annually:

Dogs: 5-8

Cats: 450+

## **Appendix II      References**

1. Zawistowski, S., Morris, J., et al (1998) Population dynamics, overpopulation and the welfare of companion animals, new insights on old and new data. *J Applied Anim Welf Sci* 1:193-206.
2. Arkow P. (1994) A new look at per “overpopulation.” *Anthrozoos* 7:202-205.
3. Foley, J., Bannasch, M. (2004) Infectious diseases of dogs and cats. In: (Miller, L, Zawistowski, S) *Shelter Medicine for Veterinarians and Staff*. Oxford: Blackwell Publishing, pgs. 235-284.
4. Miller, L. (2004) Dog and cat care in the animal shelter. In: (Miller, L, Zawistowski, S) *Shelter Medicine for Veterinarians and Staff*. Oxford: Blackwell Publishing, pgs. 95-123.