

**MADDIE'S® SHELTER MEDICINE PROGRAM AT PURDUE SCHOOL OF VETERINARY MEDICINE  
ANNUAL REPORT - JULY 1 2010 TO JUNE 30 2011**

**Due Date:** August 31 2011

**Program Director:** Dr. Annette Litster

**Co-Investigators:** Dr. Andrew Luescher, Dr. George Moore.

**Principal objectives of the grant:**

1. Educate and train future leaders in the field of shelter medicine;
2. Conduct practically-relevant research in the areas of shelter medicine and pet homelessness; and to
3. Develop leadership in public education, dissemination of information and continuing education in shelter medicine.

**OBJECTIVE 1 - EDUCATE AND TRAIN FUTURE LEADERS IN THE FIELD OF SHELTER MEDICINE**

**Maddie's® Shelter Medicine Program - Hiring**

**Sheryl Walker MA (Behavior Analysis) – Maddie's PhD Student in Shelter Population Medicine Education** - Sheryl commenced her PhD studies with the Purdue Maddie's® Shelter Medicine Program in July 2010, and Dr. Annette Litster is her Major Professor. The aim of Sheryl's PhD research project is to validate the ASPCA® Canine-ality™ Adoption Program by first determining if adoptions made within the recommended color category are more successful (i.e., fewer returns, as well as the level of satisfaction of the owner with the dog) than those made outside of the recommended color category. Secondary aims of this project include validating specific items on the dogs' evaluations, specific items on the adoptive families' evaluations, and the overall matching process. Further details of Sheryl's progress over 2010-2011 is provided in Appendix 1.

**Dr. Barbara Kompare DVM** – Dr. Kompare commenced the Maddie's® Post-DVM Fellowship on September 7 2010. She spent the whole of September at the SPOT Clinic at Cloverdale IN, where had the opportunity to practice canine and feline high volume spay/neuter techniques under the supervision of Dr. Nancy Ferguson DVM. Dr. Kompare has completed data collection for her fellowship research project - *Comparison of 7-day and 14-day course length of doxycycline in the treatment of Mycoplasma spp. infection in shelter cats* and presented a 45-minute seminar on the project at Purdue Veterinary Medicine. Manuscript preparation is underway. In January 2011, Dr. Kompare attended the North American Veterinary Conference and the Annual General Meeting of the ASV in Florida. From June 26th to July 2nd, 2011, she joined the shelter assessment team with other shelter medicine residents and fellows for the Grand Consult, led by the University of Florida Maddie's Shelter Medicine Program team, at Hernando County Animal Services in Brooksville, FL. Dr. Kompare has made excellent progress and is on track to achieve the main goals of the Fellowship – development of competency in a broad range of shelter medicine skills, including small animal population management and individual care of shelter pets and a deep appreciation for the value of a high quality shelter environment and the no-kill philosophy. Dr. Kompare plans to build on her Fellowship by attending the UF UC Davis Shelter Consult Institute in October 2011.

## **Maddie's® Shelter Medicine Program – Other training Positions**

### **Dr. Ruth Landau – Maddie's PhD Student in Shelter Population Medicine.**

Please see Appendix 2 for a summary of Dr. Landau's progress over 2010-2011 and Appendix 3 for Dr. Landau's Plan of Research.

### **Dr. Sara Bennett - Purdue Maddie's Shelter Medicine Program Resident in Animal Behavior.**

Please see Appendix 4 for a summary of Dr. Bennett's progress over 2010-2011.

## **Shelter Animal Medicine Lecture Course (VCS 89300)**

This one-credit elective lecture course was held in the Fall semester 2010. There were 4 DVM students enrolled.

The following guest lecturers from outside the Purdue SVM presented lectures –

- Dr. Lila Miller - Vice President of Veterinary Outreach, Senior Director of Animal Sciences and Veterinary Advisor of the American Society for the Prevention of Cruelty to Animals in New York, NY; Editor of the two major shelter medicine textbooks - *Shelter Medicine for Veterinarians And Staff* and *Infectious Disease Management in Animal Shelters*. Dr. Miller presented *Shelter Medicine – Where we are now and what are our challenges?*
- Dr. Sandi Norman – Indiana Board of Animal Health. Dr. Norman presented *Disaster management and planning - animal aspects*.
- Dr. Gary Patronek - VP for Animal Welfare and New Program Development at the Animal Rescue League of Boston. Dr. Patronek presented *Euthanasia and the no-kill movement*.

While scores from multiple choice questions of the student evaluation questionnaire were high (3.5-4.8 on a 5-point scale), written student feedback generated the following comments –

- *It will be much better if the course is in an earlier time slot.*
- *There were a few topics that I didn't think benefited me as much as some more basic stuff about how shelters are run on a daily basis and the real world things that vets are going to see and have to deal with on a daily basis, which is why I really enjoyed the Emergency and Critical Care on a Budget lecture.*

A survey to gather student opinions on the Shelter Animal Medicine course was distributed amongst DVM students and the results from 21 completed surveys were analyzed to inform curriculum revisions. The Fall 2011 class will be held at lunchtime (lunch provided) and there will be a class field trip to the Humane Society of Indianapolis where ASPCA check sheets will be used as active learning tools for the class. These changes have resulted in a dramatic increase in class enrolments (17 fully enrolled DVM students and a further 8 students auditing the class in Fall 2011).

## **Purdue Student Chapter of the Association of Shelter Veterinarians (SCASV)**

There are 23 active members of the SCASV at Purdue. Lunch meetings are held on an as-needs basis. Here is a summary of activities for 2010-2011 –

- August 28<sup>th</sup>, 2010: SCASV organized and volunteered at a low cost vaccine and pet wellness clinic at the YWCA in Lafayette
- September 15<sup>th</sup>, 2010: Shelter Club Call-out for new academic year

- October 9<sup>th</sup>, 2010: SCASV volunteer event - Free nail trims at local Walgreens with all donations benefiting Natalie's Second Chance Dog Shelter.
- October 29<sup>th</sup>, 2010: Shelter club planning meeting to discuss potential activities.
- November 6<sup>th</sup>, 2010: SCASV organized and volunteered at a low cost vaccine and pet wellness clinic at the YWCA in Lafayette
- January 28<sup>th</sup>, 2011: Shelter club lunch meeting, lunch provided. Dr. David Bash gave a presentation on reTails Neighborhood Pet Place in Indianapolis
- February 28<sup>th</sup>, 2011: Suture Wet Lab with Dr. Freeman 6-8pm in Junior Surgery
- April 9<sup>th</sup>, 2011: Purdue Veterinary Medicine Open House – SCASV staged an adoption event for the student teaching dogs.
- April 18<sup>th</sup>, 2011: Meeting and elections, lunch provided. Guest speaker – Dr. Jamieson Nichols gave a presentation on *Shelter Medicine: The good the bad and the feral*.

### **Maddie's® Shelter Medicine Program - Shelter Externships/3-Week Off-Campus Blocks/Practicums**

The following student shelter experiences have been undertaken (2010-2011) –

- Two senior DVM students have completed 6-week externships at the Humane Society of Indianapolis. A further 5 senior DVM students completed 3-week off-campus blocks at the Humane Society of Indianapolis.
- Two senior DVM students completed 3-week off-campus blocks at PAWS Chicago and stayed in the Maddie's® Shelter Medicine Program apartment in Chicago.
- Two senior Veterinary Technology student completed 6-week externships at PAWS Chicago, and stayed in the Maddie's® Shelter Medicine Program apartment.

Students choosing shelter experiences at PAWS Chicago also receive a full day of individual instruction in shelter behavior by Dr. Andrew Luescher and surgical experience also spend 2 days during their 3-week block at the SPOT (Stop Pet Overpopulation Today) Clinic at Cloverdale IN, where Dr. Nancy Ferguson DVM teaches them canine and feline high volume spay/neuter techniques.

The following is a list of surgeries performed during a 6-week externship at the Humane Society of Indianapolis compiled by Sarah Hay (Purdue DVM Class of 2011) –

- Spays – Dog – 17; Cat - 10
- Neuters – Dog – 38; Cat – 39
- Multiple pregnant animal spays up to full term
- Cryptorchid kitten surgery
- Cryptorchid dog (inguinal)
- Spay hernia repair
- Umbilical hernia x3
- Mass removal x4
- Multiple dental extractions
- 1/2 emergency gastropexy
- E-tube placement
- Forelimb amp in German shepherd

- Dew claw removals on 1 dog

### **Maddie's Shelter Medicine Program Award**

The 2010 Maddie's Shelter Medicine Program Award was won by Julie Molitoris (DVM Class of 2011). Julie was enrolled in the Shelter Animal Medicine lecture class in fall 2009 and completed a 3-week off-campus block at the Humane Society of Indianapolis in November 2010. Julie will continue her dedication to animal sheltering, as she has embarked on a career in a private practice where caring for shelter pets is a regular part of her job.

## **OBJECTIVE 2 – CONDUCT PRACTICALLY-RELEVANT RESEARCH IN THE AREAS OF SHELTER MEDICINE AND PET HOMELESSNESS**

### **2011 Maddie's® Summer Research Experience**

Amber Freiwald, a BS student from Purdue University, successfully completed a Survey to investigate pet ownership and attitudes to pet care in metropolitan Chicago dog and/or cat owners. Amber made a poster of her work and displayed it at a poster session with other Purdue SVM Summer Research Experience students at the end of her stay with us. The poster was also displayed at the PAWS Chicago Symposium in August 2011. Statistical analysis of the data has been completed and a manuscript is being prepared for journal submission. Here is the poster abstract –

*There is a growing movement to dramatically reduce the number of healthy and treatable companion animals euthanized in local, regional and national shelters. Creating regionally sensitive pet evaluation matrices is fundamental to establishing relevant and usable shelter protocols. Our aim was to outline reasonable standard of care and attitudes of cat and dog owners in Chicago and also reveal trends of shelter animal ownership in comparison to other prominent forms of pet acquisition. We collected data from 529 in-person surveys administered in 5 pet store locations. Respondents represented 582 dogs and 402 cats owned or continuously cared for in the past three years. According to our data, the typical Chicagoland dog owner currently owns an average of 1.3 'indoor' dogs from a breeder (36%) or shelter (33%), is 'very likely' to administer all hypothetical treatments, and would spend \$1000+ for veterinary care of a 'treatable' (77%) or 'manageable' condition (72%). Similarly, the majority of cat owners acquired their cat(s) from shelters (55%) and are also 'very likely' to administer all treatments. However, cat owners have 1.8 cats on average, are slightly less likely to pay \$1000+ for care of 'treatable' (62%) or 'manageable' (67%) conditions and are less likely to bring their cat(s) to a veterinarian for vaccinations (88%) or annual exam (71%) when compared to average dog owners (99% and 93%, respectively). Results of dog ownership variables were very similar when comparing shelter versus breeder acquisition. Shelter cats were equally or slightly more likely to have owners respond with maximum values in each category than their feline counterparts acquired from other means. Understanding the attitudes and standard of care of average Chicagoland pet owners across various forms of acquisition is critical to creating successful strategies to increase local shelter release rates, thus decreasing the number of euthanized healthy and treatable companion animals.*

*Research Support: This study was supported by a grant from the Maddie's Fund®. The Purdue Maddie's Shelter Medicine Program is underwritten by a grant from Maddie's Fund®, The Pet Rescue Foundation ([www.maddiesfund.org](http://www.maddiesfund.org)), helping to fund the creation of a no-kill nation.*

## 2010 Maddie's Summer Research Experience

Two journal submissions have resulted from the 2010 Maddie's Summer Research Experience (articles 3 and 4, p7 of this report). Additionally, posters from the 2010 Maddie's Summer Research Experience were submitted to the Purdue SVM Phi Zeta Day Poster Competition (DVM Student Category) and won 2<sup>nd</sup> and 3rd prize (Allison Volpe and Lisa Lentz, respectively).

### Maddie's® Shelter Medicine Program - Ongoing Studies

***Major long-term controlled study of Feline Immunodeficiency Virus (FIV) infected cats – The Maddie's Purdue FIV Project*** - Five-year serial investigation of clinical, survival, hematological and virology data in FIV-infected cats and age-, sex- and location-matched FIV-negative control cats; also blood sample collection for banking and further data generation. This is the first study to thoroughly document natural acquired FIV infection using prospective, controlled methodology and will answer many important questions about the markers of disease progression and prognosis using real-life cases. Collaboration with University of Glasgow Retrovirus Research Laboratory, School of Clinical Veterinary Science, University of Bristol, Dr. Tsang Long Lin, ADDL, and IDEXX Laboratories. Seventy four FIV-positive cats and 68 age- and sex-matched FIV-negative control cats are currently enrolled (Goal: 85 FIV-positive cats and 85 control cats). Data collection and cat enrolment commenced in January 2010 and is ongoing at 6-monthly intervals or more often as required at 2 study sites – Chicago IL and Memphis TN. Manuscript in preparation using cross-sectional data from initial enrolments.

***Use of a real-time PCR assay to identify infectious agents in cats with clinical signs of upper respiratory disease.*** Collaboration with Dr. Ching Ching Wu, ADDL and Dr. Christian Leutenegger, IDEXX. December 2009-present. Data collection completed from 43 cats. Results analysis and manuscript preparation is ongoing.

***Clinical trial to compare 7-day and 14-day doxycycline treatment for the treatment of Mycoplasma spp. infection in cats with upper respiratory tract infection.*** Maddie's Post-DVM Fellowship research project for Dr. Barbara Kompare. Data collection complete from 40 cats. Results analysis and manuscript preparation is ongoing.

***Use of Ponazuril as a first line treatment for coccidiosis in dogs and cats.*** Randomized comparison trial comparing the efficacy of ponazuril at 3 different dose rates in coccidia-infected shelter dogs and cats. January 2010-present. Data collection is complete from 29 cats and 16 dogs (Goal: 60 cats and 60 dogs).

***Epidemiology of feline panleukopenia virus infection in a shelter.*** Collaboration with Dr. Chutamas Benjanirut, Faculty of Veterinary Medicine, Chulalongkorn University, Thailand. This is a retrospective records study which analyzes medical and historical data from of all cats at PAWS Chicago that were diagnosed with panleukopenia and all in-contact cats over a one-year period (2010). Data collection is complete from 173 cats. Results analysis and manuscript preparation is ongoing.

### **OBJECTIVE 3 - DEVELOP LEADERSHIP IN PUBLIC EDUCATION, DISSEMINATION OF INFORMATION AND CONTINUING EDUCATION IN SHELTER MEDICINE**

#### **Maddie's Shelter Medicine Program - Journal Articles**

1. Litster A, Constable P, Wu CC. Comparison of the efficacy of amoxicillin/clavulanic acid, cefovecin, and doxycycline in the treatment of upper respiratory tract disease in cats housed in an animal shelter. *J Am Vet Med Assoc*. In press, March 2011 (JAVMA-10-10-0580.R2).
2. Litster A, Allen J, Mohamed A. Risk factors for delays between intake and veterinary approval for adoption on medical grounds in shelter puppies and kittens. *Prev Vet Med*. 2011;101:107-112.
3. Litster A, Nichols J, Volpe A. Prevalence of positive antibody test results for canine parvovirus (CPV) and canine distemper virus (CDV) and response to modified live vaccination against CPV and CDV in dogs entering animal shelters. *Vet Micro*. (VETMIC-D-11-5963). Submitted July, 2011.
4. Litster A, Pressler B, Volpe A, Dubovi E. Accuracy of a point-of-care ELISA test kit for predicting presence of protective canine parvovirus and canine distemper virus antibody concentrations in dogs. *Vet J* (YTVJL-D-11-00794). Submitted, August 2011.

#### **Maddie's IVMA Animal Sheltering Symposium**

The first annual Maddie's IVMA Animal Sheltering Symposium took place at the Humane Society of Indianapolis on October 17, 2010 and 35 veterinarians and shelter workers attended. Ms. Lynne Fridley (Maddie's Fund Field Representative) was our keynote speaker and she gave inspiring presentations on *Getting to No-Kill by 2015* and *The Shelter Pet Project*. Other speakers included –

- Dr. Sara Bennett - *Temperament testing in shelter dogs*
- Dr. Margaret Slater - *Using science to manage feral cats*
- Dr. Nicole Olynk - *Business Management for Animal Shelters: Financial and strategic management to enable continuation of shelter missions*
- Dr. Annette Litster - *Feline URI – How to keep it under control in a shelter*

Participant feedback was very positive and the next Symposium is planned for Sunday October 16 2011 at the Indianapolis Marriott East Hotel.

#### **Maddie's® Shelter Medicine Program – Travel and Presentations**

- Dr. Annette Litster - *Feline URI – How to keep it under control in a shelter*. Maddie's IVMA Animal Sheltering Symposium, Indianapolis, October 17, 2010.
- Dr. Annette Litster - *Feline viral URI: A shelter perspective*. Michiana Veterinary Medical Association, Mishawaka, IN. November 11, 2010.
- Dr. Annette Litster - *Shelter Medicine: The New Frontier for Veterinarians* - Invited seminar at School of Veterinary Medicine and Science, University of Nottingham, UK, November 29, 2010.

- Dr. Annette Litster - *Shelter Medicine Forum for the Public* (5 one-hour lectures on shelter medicine topics for veterinarians and shelter staff). *Indiana Veterinary Medical Association* Indianapolis, February 6 2011 (Invited lectures).
- Dr. Jamieson Nichols - *Prevalence of protective antibody titers against canine parvovirus (CPV) and canine distemper virus (CDV) and response to CPV and CDV vaccination in shelter dogs*. *29<sup>th</sup> Annual Scientific Meeting of the American College of Veterinary Internal Medicine*, Denver, CO, June 2011 (Oral research abstract).

### **Maddie's® Shelter Medicine Program - Grant Administration**

On June 28 2011, Maddie's Fund approved a grant of \$1,917,869 (less any unspent funds from Years 1-3) to support the Maddie's Shelter Medicine Program from July 1 2011 through June 30 2016. The grant was processed through Purdue Sponsored Program Services and an account number has been issued.

### **Maddie's® Shelter Medicine Program Advisory Board**

The annual Advisory Board meeting was held on Monday October 18 2010. Minutes of the meeting with an accompanying letter from Board Chairman Dr. Hugh Lewis, were emailed to Board members. Dr. Lewis and Dr. Litster have been in contact periodically during the year so that Dr. Lewis is fully informed of program developments. The main points of discussion at the meeting were -

- Dr. Luescher's departure from Purdue and the search for a new behaviorist.
- Increasing participation in PAWS Chicago externships by Vet Tech students. Dr. Peek suggested offering four \$1000 scholarships annually to encourage student enrollment in these externships.

The next Advisory Board meeting is scheduled for Monday October 17 2011 (11.30am-1.30pm, Dean's Conference Room, LYNN Hall, Purdue University).

### **Purdue Maddie's Shelter Medicine Program apartment in Chicago**

The apartment has been used by Purdue DVM and VT students throughout the year and by Maddie's Summer Research Experience students. Additionally, a visiting faculty member from Faculty of Veterinary Medicine, Chulalongkorn University, Thailand (Dr. Chutamas Benjanirut) stayed in the apartment while she performed a retrospective epidemiological study on feline panleukopenia at PAWS Chicago in October-November 2010.

The apartment lease was renewed in May 2011. There were no maintenance issues during the year and the apartment was kept very clean by all occupants.

## APPENDIX 1

### Sheryl Walker – Maddie's PhD Student in Shelter Population Medicine Education – Summary of Progress July 1 2010-June 30 2011

#### Coursework – Summer Semester 2010

- Research (3 credits) – 4.0 GPA

#### Coursework – Fall Semester 2010

- Seminar in Epidemiology (1 credit) – 4.0 GPA
- Clinical Biostatistics (3 credits) – 3.0 GPA
- Research (6 credits) – 3.7 GPA

#### Coursework – Spring Semester 2011

- Seminar in Epidemiology (1 credit) – 3.0 GPA
- Statistical Methods for Biology (3 credits) – 3.0 GPA
- Ethical Issues in Biomedical Research (3 credits) – 3.1 GPA
- Research (6 credits) – 3.7 GPA
- Design, Conduct, and Analysis of Clinical Trials (2 credits) – 4.0 GPA

#### Coursework – Summer Semester 2011

- Research (3 credits) – current

#### Research – Summer Semester 2010 through Summer Semester 2011

- Dr. Bennett's (animal behavior resident) research project
  - Obtained SAFER certification on January 4<sup>th</sup>, 2011
  - Blinded assessor – handle dogs without knowing behavioral histories
  - Proficient at noticing dog body language and behaviors in order to give scores on SAFER assessments and Bollen's Modified Assess-a-Pet assessments

#### Miscellaneous Projects – Spring Semester 2011

- Assisted with Dr. Luescher's wet lab for veterinary technicians at the local animal shelter (Almost Home Humane Society)
  - Helped students understand the methods and techniques of operant conditioning with a focus on positive reinforcement
  - Each pair of students worked with a shelter dog to learn basic skills such as sitting on cue, having all four paws on the ground when people walk by the kennels, and to walk on a Gentle Leader head halter
  - Introduced students to clicker training

#### Miscellaneous Projects – Summer Semester 2011

- Chicago Animal Care and Control
  - Conducted 84 SAFER assessments with dogs of various backgrounds – owner relinquishments and strays
  - Assessments were conducted May 16<sup>th</sup> through 18<sup>th</sup> with a team consisting of Dr. Bennett and several employees of PAWS Chicago
- Literature Review
  - Currently reviewing literature (both research articles and textbooks) about how genetics and the environment influence behavior
  - Review paper in preparation for submission to appropriate journal

## APPENDIX 2

### Dr. Ruth Landau – Maddie’s PhD Student in Shelter Population Medicine Summary of Progress July 1 2010-June 30 2011

#### Awards:

April 11, 2011 Phi Zeta Veterinary Honor Society: For excellence in veterinary research and academics.

#### Presentations:

July 1, 2010 National Women’s Music Festival: “Medical Supply Recovery”  
July 22, 2010 GERI Gifted Education Resource Institute - Summer Residential Camp: “Pets & Vets”  
Oct 7, 2010 CPB 69700 – Department Seminar: “Helping Animal Shelters (and Animals) Survive”  
Nov 23, 2010 CPB 69500 – Seminar in Epidemiology: “Obesity in Pets”  
Jan 27, 2011 VCS 51700 – Achieving Success in Private Practice: “Communication in Veterinary Medicine”  
Mar 31, 2011 CPB 69500 – Seminar in Epidemiology: “Social Disparities in Human and Feline Health in the US”

#### Veterinary Conferences/Continuing Education Seminars Attended:

Sept 22-24, 2010 Purdue Fall Conference (West Lafayette, IN) – (CEU’s earned = 3)  
October 24, 2010 CIVMA: Emergency & Critical Care Symposium (Indianapolis, IN) – (CEU’s earned = 6)  
Jan 15-18, 2011 North American Veterinary Conference (Orlando, FL) – (CEU’s earned = 26)

**Veterinary Licensure CE Hours Earned in Year Two:** 35 CEUs

#### Courses Completed:

Summer 2010	Research PhD Thesis	(S)
Fall 2010	Clinical Biostatistics (Purdue)	(A)
	Seminar in Epidemiology (Purdue)	(A)
	Data Analysis-STATA (Johns Hopkins)	(A)
	Conducting Epi Studies (Johns Hopkins)	(A)
	Applied Regression Analysis (Purdue)	(B)
	Social Epidemiology (Johns Hopkins)	(B)
	Research Seminar (Purdue)	(P)
	Research PhD Thesis (Purdue)	(S)
Spring 2011	Ethical Issues Biomed (Purdue)	(A)
	Dsgn, Cond, Anly Clinical Trials (Purdue)	(A)
	Seminar in Epidemiology (Purdue)	(A)
	Research Seminar (Purdue)	(S)
	Research PhD Thesis (Purdue)	(S)
Summer 2011	Research PhD Thesis (Purdue)	(S)

PhD progress:



### APPENDIX 3

#### Dr. Ruth Landau – Maddie’s PhD Student in Shelter Population Medicine Education – Plan of Research, June 30 2011

##### **Project Title:**

An assessment of current delivery of and demand for veterinary services and products to Latino and non-Latino clients and their pet dogs and cats.

##### **Project Summary:**

The proposed work entitled “An assessment of current delivery of and demand for veterinary services and products to Latino and non-Latino clients and their pet dogs and cats” will be comprised of three distinct studies:

- I. National AVMA Practitioner Survey
- II. National Pet Owner Survey
- III. Indianapolis-based Latino Pet Owner Survey & Intervention

Long-term objectives and specific aims of this work include:

- (i) Summarize current recommendations of AVMA veterinary practitioners who treat dogs and cats, with a focus on recommended vaccination protocol, ideal age to spay/neuter, and behavior training.
- (ii) Illuminate AVMA veterinarians’ experiences, challenges, lessons learned, beliefs and barriers regarding their interactions with Latino dog and cat owners.
- (iii) Better understand what AVMA veterinary practitioners are doing to prepare for and address the increase in Latino pet-owning clients.
- (iv) Inventory currently available tools and resources being used by veterinary practices as they interact with Latino pet owners.
- (v) Gain general insight into current dog and cat owners’ beliefs about, barriers to, and behavior regarding veterinary care and basic animal husbandry. Particular focus will be on why owners choose to follow or not to follow veterinary recommendations regarding vaccinations, spay/neuter, and behavior training.
- (vi) Gain specific insight into current Indianapolis-based Latino dog and cat owners’ beliefs about, barriers to, and behavior regarding veterinary care and basic animal husbandry. Particular focus will be on why Latino owners choose to follow or not to follow veterinary recommendations regarding vaccination, spay/neuter, and behavior training.
- (vii) Evaluate whether Spanish language written interventions geared toward Latino adults and children increase Latino pet owners’ adherence to recommendations and utilization of basic veterinary services.

##### **Relevance to public health:**

Latino communities throughout the U.S. are growing faster than any other ethnic group. With this growth in human population comes an increase in the number of Latino-owned pets. Will this lead to an increase in the number of unsterilized, untrained, and/or under-immunized dogs and cats in the U.S.? If so, we have the potential to see an increase in vaccine-preventable disease outbreaks, as well as an increase in the number of puppies, kittens, and untrained “problem” young adult pets relinquished to animal shelters. What do we need to understand

about Latino attitudes toward their pets and veterinary practitioners' styles of communication in order to prevent, or perhaps reverse, this potential trend?

**Research Plan:**

**A. Specific Aims (Hypothesis and Objectives):**

Is there a difference between what constitutes acceptable treatment of dogs and cats by Latino pet-owners vs. non-Latino pet-owners? Are Latino dog and cat owners less likely to vaccinate, sterilize, and obedience train their pets compared to non-Latino dog and cat owners? We hypothesize that an educational intervention delivered by veterinary practitioners to Latino pet owners will increase compliance to recommendations to vaccinate, spay/neuter, and train pets, compared to Latino pet owners who do not receive this educational intervention. Potential results would include: higher frequency of vaccination, fewer offspring, and less relinquishment of puppies, kittens, and untrained young adult dogs to local shelters.

A primary objective of this research is to contribute to the existing body of knowledge characterizing pet ownership attitudes and beliefs among pet owners in general, and among 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> generation Hispanic/Latino dog and cat owners in particular. Survey results will help clarify dog and cat owner attitudes toward pet care, pet spending, and current beliefs and behaviors regarding re: acquisition/deposition of pets, vaccinations, spay/neuter, obedience training, and role of pet dogs and cats in owners' lives. A secondary objective of this research will be to elucidate what AVMA practitioners are currently doing to reach out to the ever-growing demographic of Hispanic/Latino pet owners, and to inventory what resources are currently available and what tools still need to be developed. If our research supports the belief that Latino pet owners are less likely to vaccinate, sterilize, and obedience-train their pets, what strategies will work best to overcome these barriers? Through this work we hope to gain better understanding of how the veterinary community at-large can improve communication with our ever-growing Latino clientele.

As described in the project summary above, long-term objectives and specific aims of this work include:

- (i) Summarize current recommendations of AVMA veterinary practitioners who treat dogs and cats, with a focus on recommended vaccination protocol, ideal age to spay/neuter, and behavior training.
- (ii) Illuminate AVMA veterinarians' experiences, challenges, lessons learned, beliefs and barriers regarding their interactions with Latino dog and cat owners.
- (iii) Better understand what AVMA veterinary practitioners are doing to prepare for and address the increase in Latino pet-owning clients.
- (iv) Inventory currently available tools and resources being used by veterinary practices as they interact with Latino pet owners.
- (v) Gain general insight into current dog and cat owners' beliefs and behavior re: veterinary care and basic animal husbandry, with particular focus on why owners choose to follow or not to follow veterinary recommendations regarding vaccinations, spay/neuter, and behavior training.
- (vi) Gain specific insight into current Indianapolis-based Latino dog and cat owners' beliefs about, barriers to, and behavior re: veterinary care and basic animal

husbandry, with particular focus on why owners choose to follow or not to follow veterinary recommendations regarding vaccination, spay/neuter, and behavior training.

- (vii) Evaluate whether Spanish language written interventions geared toward Latino adults and children increase Latino pet owners' adherence to recommendations and utilization of basic veterinary services.

## **B. Background and Significance:**

Dog and cat pet ownership in the US in the 21<sup>st</sup> century is of enormous personal, psychological, familial, social, cultural and economic importance. Current estimates by the American Pet Products Association reveal that 62% of U.S. households own a pet, translating to 72.9 million pet-owning homes. Specifically, we in the U.S. share our homes with 86.4 million cats and 78.2 million dogs. Results of the 2010 census count 50.5 million Hispanics in the U.S. today, with Hispanics of Mexican origin accounting for 63% of all Hispanics. Those of Hispanic descent currently account for 50.5% of the population growth in this country.

Despite this Latino population explosion, we have only skeletal knowledge about the Latino pet-owning population overall. Previous studies reveal that Latino pet owners are as highly bonded to their pets as non-Latino owners, and are more likely to consider their dog or cat to be a "family member" than non-Latino owners (Schoenfeld-Tacher et al, 2010). Earlier studies also reveal that self-identified Latino owners are 3.4 times more likely not to have their pet spayed or neutered, especially their male dogs, than those who do not identify as Latino (Risley-Curtiss et al, 2006). Finally, Latino owners are much less likely to be cat owners than they are dog owners (Schoenfeld-Tacher et al, 2010; Faver 2009).

What do Latino pet owners' expect from their relationship with their pets? What do they expect from their relationship with their veterinarian? Do they have a veterinarian? What are the barriers to utilizing veterinary services, including but not limited to: wellness preventive care (vaccinations, heartworm and FIV/FeLV testing, HW and flea prevention), sterilization (spay and neuter), and basic obedience. Why do some Latino pet owners readily avail themselves of these services, especially spay/neuter services, while others do not? Are there significant cultural reasons for these differences in choices, or is "Latino" simply a confounding term for "newly immigrated, lower socio-economic, less-educated, non-home-owning pet owner"?

## **C. Research Design and Methods:**

All survey materials presented to pet-owners will be available in English and Spanish, with professional translation and back-translation provided by Isabel Fernandez of SiteTranslations.com, an official translator of AVMA Spanish Client brochures.

### **I. National AVMA Practitioner Survey**

Conduct a randomized, mail-out survey of AVMA veterinarians to better understand what practitioners nationwide are doing to prepare for and provide services to Latino pet owners. Specifically, what are practitioners' current attitudes and recommendations re: vaccinations, spay/neuter, and basic obedience? What are their current beliefs about and experiences with Latino pet owners? Are

practitioners encountering barriers to their medical recommendations in general, and with Latino clients in particular? How are veterinary practices navigating these barriers? To what degree are practitioners assembling and utilizing bilingual/bicultural resources to help them provide state-of-the-art care to the fastest growing U.S. demographic and potential clients, Latino pet owners?

## **II. National Pet Owner Survey**

Conducted as a subset of a nationally representative on-line survey of US consumers' tastes, preferences and perceptions surrounding US production agriculture, survey US pet owners about pet care, pet spending, and current beliefs and behaviors regarding: acquisition/deposition of pets, vaccinations, spay/neuter, obedience training, and role of pet dogs and cats in owners' lives. Specific questionnaire topics will include: owner demographics; pet breed, sex, neuter status, age; number and types of pets owned; number of years as pet owner; average amount of time and money spent on pet; veterinary visits; types of restraint for pets (crates, fencing, tie outs); diet fed; where pets are obtained; use of health insurance; arrangements made when owner works and travels; training; information sources; what owner would do if pet died; provisions for pet if owner died. A comparison of respondents who self-identify as Hispanic versus non-Hispanic will be highlighted.

## **III. Indianapolis Latino Pet Owner Survey & Intervention**

Conducted as a stand-alone in-person paper survey, survey Indianapolis-based Latino pet owners who present a dog or cat for wellness care about pet care, pet spending, and current beliefs and behaviors regarding re: acquisition/deposition of pets, vaccinations, spay/neuter, obedience training, and role of pet dogs and cats in owners' lives. The overarching goal of this survey is to gain a better understanding of Latino pet owners' attitudes, values, beliefs and behaviors toward their pets. Questionnaire will attempt to illuminate attitudes (acceptance/reluctance) toward vaccinating, sterilizing, and behavior-training their pets. Indianapolis-based Latino pet owners will be given a subset of the Pet Owner Survey (II above) at the time of their first wellness visit to a Well Pets clinic. During exam with WP veterinarian, clients will be encouraged to vaccinate, spay/neuter, and obedience train pet. Client will be sent home with **ADULT &/or CHILD INTERVENTION** (written Spanish/English informational brochures and/or coloring book). Six months post-intervention, follow-up telephone survey will be conducted to find out if pet is (i) still with owner, (ii) has been fully immunized, and (iii) has been spayed/neutered.

## APPENDIX 4

### Dr. Sara Bennett - Purdue Maddie's Shelter Medicine Program Resident in Animal Behavior. Summary of Progress July 1 2010-June 30 2011

#### Cases:

New cases: 132

Follow up cases: 80

Behavior assessments: 9 dogs from PAWS Chicago

Case Report #1 submitted and accepted May 2011

Case Report #2 completed, ready for submission

#### Research Project:

Data collection completed- 30 no aggressive history, 38 aggressive history, 10 of these dogs (5 of each category) retested for test-retest comparison; all tests re-scored via video for inter-rater reliability comparison

Data entry nearly completed, ready for statistical analysis

Introduction and materials and methods started

#### Presentations:

Puppies and Kittens at the Veterinary Clinic CE presentation July 9, 2011- Indianapolis, IN

Shelter Medicine Symposium Indianapolis, IN: Temperament Testing- What We Do and Don't Know- Oct. 17, 2010

Canine Cognitive Dysfunction Syndrome Seminar- Dec. 10, 2010

Canine Cognitive Dysfunction Syndrome CE presentation- June 15, 2011 Michiana Veterinary Medical Association

#### Teaching Assignments:

VCS 80100 Behavior, Husbandry, and Diagnostic Techniques in Domestic Animals 1 (10 hours- lecture, lab Fall 2010)

VCS 80500 Small Animal Behavioral Therapy (1 hour- lecture Spring 2011)

VCS 41800 Applied Small Animal Behavior (22 hours- lab Spring 2011 held at Almost Home Humane Society- Lafayette, IN)

VM 84000 Applications and Integrations (14 hours- group tutoring Fall 2010)

#### Courses/ Conferences Attended:

Attendance of AVSAB/AVMA 7/30/2010-8/3/2010

Purdue University Fall Conference Sept. 22-24, 2010

Behavioral Pharmacology for Behavior Residents- Oct. 2-3, 2010 Atlanta, GA

Parrot Handling and Behavior with Barbara Heidenreich- Nov. 16, 2010 Indianapolis, IN

Clicker Expo- Mar. 18-20, 2011 Chicago, IL

Farm Animal Behavior Course- Apr. 13-16, 2011 Bloomfield Hills, MI

#### Courses Completed:

CPB 62500 Clinical Biostatistics Fall 2010- Grade of A

#### Other:

1. Volunteer Behavior and Handling Training: Almost Home Humane Society Lafayette, IN- April 23, 2011

2. Behavior Assessments at Chicago Animal Care and Control- May 16-18, 2011. Assessed 84 dogs using behavior assessment tools, and produced written report detailing behavioral and welfare status of dogs at facility.
3. Trained staff from PAWS Chicago in performing SAFER behavior assessment for shelter dogs
4. Assisted with behavior and training lab for Boiler Vet Camp June 20, 2011

**Appendix 5 – Grant Finances Summary (2010-2011).**

[Removed for publication]

**Appendix 6 – Animal statistics table – PAWS Chicago 2009.**

This information was not available at the time of report submission, but will be sent directly to the Maddie’s Fund from PAWS Chicago when it becomes available (early September 2011).

**Appendix 7 – Animal statistics table – Humane Society of Indianapolis 2009.**

Please see next 2 pages.

# Animal Statistics Table



*The Pet Rescue Foundation*

	Dog	Cat	Total
<b>NAME OF ORGANIZATION:</b> Indianapolis Humane Society			
<b>DATE OF REPORT:</b> (January 2010 - December 31, 2010)			
<b>A BEGINNING SHELTER COUNT (1.1.2010)</b>	<b>184</b>	<b>138</b>	<b>322</b>
<b>INTAKE (Live Dogs &amp; Cats Only)</b>			
<i>From the Public</i>			
Healthy	1046	1063	2109
Treatable – Rehabilitatable	219	38	257
Treatable – Manageable	72	60	132
Unhealthy & Untreatable	116	48	164
<b>B Subtotal Intake from the Public</b>	<b>1453</b>	<b>1209</b>	<b>2662</b>
<i>Incoming Transfers from Organizations within Community/Coalition (specify orgs)</i>			
Healthy	267	429	696
Treatable – Rehabilitatable	206	215	421
Treatable – Manageable	22	36	58
Unhealthy & Untreatable	20	35	55
<b>C Subtotal Intake from Incoming Transfers from Orgs within Community/Coalition</b>	<b>515</b>	<b>715</b>	<b>1230</b>
<i>Incoming Transfers from Organizations outside Community/Coalition (specify orgs)</i>			
Healthy	342	40	382
Treatable – Rehabilitatable	92	6	98
Treatable – Manageable	23	0	23
Unhealthy & Untreatable	0	0	0
<b>D Subtotal Intake from Incoming Transfers from Orgs outside Community/Coalition</b>	<b>457</b>	<b>46</b>	<b>503</b>
<i>From Owners/Guardians Requesting Euthanasia</i>			
Healthy	0	0	0
Treatable – Rehabilitatable	0	0	0
Treatable – Manageable	0	0	0
Unhealthy & Untreatable	267	118	385
<b>E Subtotal Intake from Owners/Guardians Requesting Euthanasia</b>	<b>267</b>	<b>118</b>	<b>385</b>
<b>F Total Intake [B + C + D + E]</b>	<b>2692</b>	<b>2088</b>	<b>4780</b>
<b>G Owner/Guardian Requested Euthanasia (Unhealthy &amp; Untreatable Only)</b>	<b>267</b>	<b>118</b>	<b>385</b>
<b>H ADJUSTED TOTAL INTAKE [F minus G]</b>	<b>2425</b>	<b>1970</b>	<b>4395</b>
<b>ADOPTIONS (only dogs and cats adopted by the public)</b>			
Healthy	957	743	1700
Treatable – Rehabilitatable	588	566	1154
Treatable – Manageable	134	68	202
Unhealthy & Untreatable	0	0	0
<b>I TOTAL ADOPTIONS</b>	<b>1679</b>	<b>1377</b>	<b>3056</b>
<b>OUTGOING TRANSFERS to Organizations within Community/Coalition (specify orgs)</b>			
Healthy	7	102	109
Treatable – Rehabilitatable	33	8	41
Treatable – Manageable	5	5	10
Unhealthy & Untreatable	0	0	0
<b>J TOTAL OUTGOING TRANSFERS to Orgs within Community/Coalition</b>	<b>45</b>	<b>115</b>	<b>160</b>
<b>OUTGOING TRANSFERS to Organizations outside Community/Coalition (specify orgs)</b>			
Healthy	4	13	17
Treatable – Rehabilitatable	46	0	46
Treatable – Manageable	5	0	5
Unhealthy & Untreatable	0	0	0
<b>K TOTAL OUTGOING TRANSFERS to Orgs outside Community/Coalition</b>	<b>55</b>	<b>13</b>	<b>68</b>
<b>L RETURN TO OWNER/GUARDIAN</b>	<b>101</b>	<b>24</b>	<b>125</b>

<b>DOGS &amp; CATS EUTHANIZED</b>				
<b>M</b>	Healthy <i>(Includes Owner/Guardian Requested Euthanasia)</i>	0	0	<b>0</b>
<b>N</b>	Treatable – Rehabilitatable <i>(Includes Owner/Guardian Requested Euthanasia)</i>	0	0	<b>0</b>
<b>O</b>	Treatable – Manageable <i>(Includes Owner/Guardian Requested Euthanasia)</i>	0	0	<b>0</b>
<b>P</b>	Unhealthy & Untreatable <i>(Includes Owner/Guardian Requested Euthanasia)</i>	785	442	<b>1227</b>
<b>Q</b>	<b>Total Euthanasia</b> [M + N + O + P]	<b>785</b>	<b>442</b>	<b>1227</b>
<b>R</b>	<b>Owner/Guardian Requested Euthanasia (Unhealthy &amp; Untreatable Only)</b>	<b>267</b>	<b>118</b>	<b>385</b>
<b>S</b>	<b>ADJUSTED TOTAL EUTHANASIA</b> [Q minus R]	<b>518</b>	<b>324</b>	<b>842</b>
<b>SUBTOTAL OUTCOMES</b> [I + J + K + L + S] <i>Excludes Owner/Guardian Requested Euthanasia (Unhealthy &amp; Untreatable Only)</i>				
<b>T</b>		2398	1853	4251
<b>U</b>	<b>DIED OR LOST IN SHELTER/CARE</b>	<b>21</b>	<b>29</b>	<b>50</b>
<b>TOTAL OUTCOMES</b> [T + U] <i>Excludes Owner/Guardian Requested Euthanasia (Unhealthy &amp; Untreatable Only)</i>				
<b>V</b>		2419	1882	4301
<b>W</b>	<b>ENDING SHELTER COUNT (12.31.2010)</b>	<b>190</b>	<b>209</b>	<b>399</b>

In a perfect world, the Ending Count is equal to the Beginning Count (A) plus Total Intake

(F) minus all Outcomes (R+V). -----> 190 226 416

If your reported Ending Count does not match these numbers, please go back through your data and be sure you didn't miss something (i.e., animals in foster, adoptions, transfers, etc.). If all animals have been accounted for and the reported Ending Count is different, please indicate in the comment section.

**COMMENTS: End count is off by 17 cats.**

**I agree that in completing this form, we have used the Maddie's Fund definitions of “Healthy,” “Treatable - Manageable,” “Treatable - Rehabilitatable,” and “Unhealthy & Untreatable” as set forth in the attached document titled, “Maddie’s Fund® Categorizations/Definitions of Shelter Animals.”**

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_