15 Years: A Brief History of Shelter Medicine

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Michael began his career in high school working as an animal care attendant, groomer, and veterinary assistant at a family-owned veterinary practice in the suburbs of Detroit, Michigan. He spent nearly a decade working at the Virginia–Maryland Veterinary Emergency Service and over a year at the National Institutes of Health National Heart, Lung, and Blood Institute. In 1998, Michael moved to California to accept a position in UC Davis's Small Animal Intensive Care Unit. He joined Dr. Niels Pedersen's lab 2 years later, and shortly after that he became program coordinator of the first shelter medicine veterinary training program in the world. After 15 years in that position, Michael joined the UC Davis Veterinary Center for Clinical Trials.

In November 2015, nearly a dozen shelter veterinarians convened at the American Board of Veterinary Practitioners Symposium in New Orleans to sit for the first certification examination for the newly approved Shelter Medicine Practice specialty. Most of the candidates were faculty and graduates from formal university residency training programs at veterinary schools across the nation—programs that generally had not existed a mere decade before. This watershed moment came nearly 15 years to the day that Drs. Niels Pedersen and Janet Foley launched the world's first residency training program at the UC Davis School of Veterinary Medicine in the previously unheard-of field of shelter medicine.

FOUNDING AN ACADEMIC FIELD

The program at UC Davis was born out of Dr. Pedersen's long recognition that veterinary professionals responsible for the medical management of intensively housed companion animals were in desperate need of an evidence-based approach to providing for the mental and physical well-being of this vulnerable population. A truly legendary veterinarian, scientist, humanitarian, and visionary, Dr. Pedersen has been a leading researcher in the field of feline retroviruses since the mid 1960s. In this role, he was placed in charge of the UC Davis research cat colony in the early 1970s. Dr. Pedersen had noticed that his colony cats, which he allowed to roam free in purposely designed housing arrangements, remained relatively disease free, while other campus colonies of animals obtained from shelters and housed in "traditional" stainless steel cages were continually battling infectious disease. Dr. Pedersen's observation and practices are detailed in his highly regarded book *Feline Husbandry and Diseases and Management in the Multiple-Cat Environment*, published in 1991.

In 2000, Dr. Pedersen was leading the UC Davis Center for Companion Animal Health when he learned about Maddie's Fund, the largest individually funded companion animal welfare foundation in the world. David Duffield, co-founder and former chairman of PeopleSoft, had endowed the fund in 1999 in the name of his beloved miniature schnauzer, who had died of cancer 2 years previously. Duffield also lured Richard Avenzino away from his position as president of the San Francisco SPCA to run the fund. Considered by many to be the father of the "no kill" movement, Avenzino had championed the San Francisco shelter's effort to create the world's first "no kill city." One of Avenzino's first proclamations as president of Maddie's Fund was that within 10 years, no animal would be euthanized unless it was irremediably suffering or could not be rehabilitated because of a behavior issue. To achieve this objective, Avenzino knew he would have to infiltrate, influence, and coerce

HAPPY TO HELP are Barbie Laderman-Jones (left) and Tess Kommedal (right), who perform examinations on and report findings in shelter cats at the Sacramento SPCA.

veterinary academia to address the medical needs of intensively housed animals.

After some negotiation, Maddie's Fund promised to grant the UC Davis School of Veterinary Medicine $1.5 million over 5 years to (1) start a resident training program, (2) conduct noninvasive research of benefit to shelter animals, and (3) provide outreach and support to animal sheltering organizations, as long as at least 60% of the shelters helped were self-described as no kill facilities. And with that agreement, shelter medicine as an academic field was born.

Dr. Pedersen's first task was to hire a director to lead the program. He immediately identified his former graduate student, Janet Foley, DVM, PhD, as the right person for the job. Dr. Foley, a free-spirited, confident, bold personality, had the scientific curiosity and know-how necessary to not only lead this pioneering program but also maintain and defend its academic freedom and integrity while working in the often volatile and polarizing field of companion animal welfare. With her on board, a program coordinator was needed to run day-to-day operations and to field cries for help from every type of animal shelter from around the world.

That's where I entered the field of shelter medicine.

A Technician's Perspective

When Dr. Foley approached me to see if I was interested in the program coordinator position, I was working as postgraduate researcher on a project to identify the origins of the domestic dog through Y chromosome haplotype analysis. Before that, I had enjoyed a 12-year career as a companion animal emergency and critical care technician, the last 2 years of which I had worked in the UC Davis Small Animal Intensive Care Unit. I had also spent a year as a certified laboratory animal technician at the National Institutes of Health National Heart, Lung, and Blood Institute.

While many folks working in the field of animal welfare view working with homeless animals as a calling, I admit I was drawn by the opportunities for basic research that could immediately improve management practices and enhance infectious disease prevention. I have to also confess that my wife, a veterinary geneticist, was in line for a faculty position at UC Davis where she would take charge of the canine

genetic research that I was a part of, which I thought might lead to some complications at home. So I was in need of a new career path, and when I heard about the plans for the shelter medicine program, my interest was piqued.

Granted, my experience with animal shelters to that point was limited to having adopted 2 dogs. Both came with the array of shelter diseases usual at that time; one also came with a lesson in defying poor customer service. In addition, like any emergency and critical care technician worth his or her salt, I could amaze pet owners with my ability to guess the origin of their recently acquired pet as being an animal shelter, and I could identify the time since adoption and the animal's most likely medical condition based on the owner's description of the telltale signs of advanced upper respiratory disease, parvovirus, panleukopenia, ringworm, etc.

The Final Pieces

Fortunately for Dr. Pedersen, Dr. Foley, and myself, our first resident, Dr. Kate Hurley, had vastly more shelter experience than any of us. A 1999 UC Davis School of Veterinary Medicine graduate, Dr. Hurley started her path into shelter medicine in earnest while working in the trenches as an animal control officer in Santa Cruz, California, in 1989. After graduating from UC Davis, she worked as a shelter veterinarian in California and Wisconsin. Frustrated by the lack of resources available to assist veterinary professionals merge the needs of population and individual health management in the challenging environments where homeless companion animals are housed, she sought out advanced shelter medicine training. Soon after, Dr. Sheila Segurson-D'Arpino joined the program, becoming the first resident to undertake a postgraduate behavior specialty training program that focused on shelter animals and shelter behavior programs.

CREATING A NEW DIALOGUE

As pioneers in a field yet to be defined, our little group found the early years of the shelter medicine program challenging. There were very few resources available. A quick search of scholarly publications using the search term "animal shelter" yields a total of 150 papers published between 1970 and 2001, when the program began. Outside of and in spite of these scant research efforts, many shelters had operated for decades through the vertical transfer of knowledge perpetuated by personal experience and by perception. Approaches to preventive measures as simple as vaccination varied widely between—and, in many cases, within—shelters, depending on who was tasked with intake of animals on a particular day. Animals were housed in inadequate caging without a clear plan or path out, often for weeks, months, years, or, alternatively, for not enough time to allow a desperate owner to navigate obstacles in time to prevent the unthinkable. Newspaper articles, TV reports, and the newly emerging blogosphere were replete with horror stories about conditions at shelters and gut-wrenching testimonials from bereaved pet owners whose animal had died in a shelter because of unchecked disease or clerical error.

SHELTER MEDICINE includes many veterinarians and veterinary technicians who passionately care for this incredibly vulnerable population of dogs and cats.

As such, from the outset, we had to be creative when researching and seeking support material for recommendations to improve conditions at shelters. For help with sanitation and disinfection recommendations, we turned to human hospital, industrial, and even restaurant and hospitality disinfection journals for information about products and techniques. For help with vaccination and disease prevention questions, we looked to herd health publications. However, when speaking in public or writing recommendations, we made an effort to avoid "hot-button" terms such as "herd" or "research," which could result in immediate dismissal of and negative feedback about the information we provided. We visited small groups at shelters and spoke at conferences, and because immediate feedback and amplification outlets such as Facebook and Twitter didn't yet exist, some of our more progressive suggestions and recommendations were able to take root before being subjected to "conventional wisdom."

Gradually, we learned what worked and what didn't, as much through research as through visiting shelters, both large and small, municipal and private, open admission and no kill. We gathered, compiled, and published our findings on our website, sheltermedicine.com, updating information and deleting outdated recommendations as our understanding of shelter medicine expanded. We reached out to researchers at veterinary schools across the country to share what we had learned and to learn from the experts at these institutions. As we soon discovered, there were, in fact,

experts who had long been working diligently to improve the mental and physical well-being of shelter animals through their research efforts: Dr. Jan Scarlett at Cornell, Dr. Gary Patronek at Tufts, Dr. Ron Shultz at Wisconsin, Drs. Julie Levy and Cynda Crawford at Florida, Dr. Phill Kass at UC Davis, and many more. In addition to the academics, there were plenty of devoted shelter experts working tirelessly in and around animal shelters across the county and in our Northern California backyard, such as Dr. Wes Jones, Dr. Richard Bachman, Dr. Cynthia D. Delany, and Dr. Bonnie Yoffe-Sharp.

Ultimately, the program survived and even thrived by reaching out to everyone with a unique perspective on or a novel approach to improving the care of shelter animals. We embraced the open-source approach to acquiring, evaluating, and disseminating information of import to the field of shelter medicine. One of my proudest achievements was the creation of our shelter medicine class, which ran for 11 years and was open to not only veterinary students but also to any shelter professional or interested community member. We took advantage of cutting-edge (at the time) software that allowed us to live stream and archive each shelter lecture on our website, which quickly became the go-to resource for evidence-based shelter medicine. Our lecture series featured guests from around the country who we considered to be experts on particular facets of animal welfare. Topics ran the gamut from behavior to neonatal care to vaccination to legislation. Today, you can find their technological descendants, webcasts, on pretty much every shelter topic out there, and nearly every shelter advocacy group hosts them, including the Humane Society of the United States, PetSmart Charities, and Maddie's Institute.

GROWING ACROSS THE WORLD

Together, we built the path forward. In 2004, the first textbook on the topic of shelter medicine, *Shelter Medicine for Veterinarians and Staff*, was published. In 2005, the recently formed Association of Shelter Veterinarians began to discuss shelter medicine becoming a board specialty. In 2008, residency standards were developed, and in 2010, *Guidelines for the Standards of Care in Animal Shelters* was published. Chaired by Dr. Sandra Newbury, and coauthored by many of the aforementioned shelter experts from across the nation, the Standards is the seminal document in the field of shelter medicine. Based on the Five Freedoms, which were created in 1965 in the United Kingdom and are broadly accepted as the guidelines of welfare for all animals, the Standards have allowed shelters around the world to examine their lifesaving ability and to identify and prioritize areas and practices within their operational model that need improvement.

Today, shelter medicine is a well-established, continually growing, and incredibly rewarding specialty field of veterinary medicine. As of this writing, the same journal search for "animal shelter" that yields a mere 150 publications before 2001 brings back over 800 citations from between 2001 and today on topics ranging from disease recognition and testing to enrichment techniques for alleviating stress in shelter animals. Countless webinars on every imaginable shelter topic are accessible at the click of a button. Shelter medicine programs are expanding at veterinary schools across the United States and around the world! Progressive programs in shelter medicine like the University of Florida's online master's degree and innovative leaders like Dr. Brittany Watson at the University of Pennsylvania School of Veterinary Medicine **(BOX 1)** are expanding the reach and redefining the meaning of shelter medicine by bringing students into communities to provide medical care and education to at-risk animals and their owners in an effort to further increase companion animal and decrease relinquishment.

LOOKING BACK

During my time as the UC Davis' shelter medicine program coordinator, I saw the good, the bad, and the ugly of traditional, private, municipal, no kill, rescue, sanctuary, and the occasional plain old "too many animals to properly care for" shelter organizations. Along the way, I met many incredible veterinarians and veterinary technicians who headed the call to care for this incredibly vulnerable population. Many dedicated and talented people blazed this trail. All are worthy of the term *hero*, but none is more worthy than Dr. Niels Pedersen, scientist, humanitarian, and father of shelter medicine. ■

BOX 1
Pursing the Future of Shelter Medicine

Today, nearly every veterinary school in North America and a handful of veterinary schools around the world offer some form of shelter medicine training. In addition to learning opportunities open to veterinary students, the University of Florida shelter medicine program has created a specialized online training program open to all sheltering professionals. For more information, visit **onlinesheltermedicine.vetmed.ufl.edu**.

At the same time, progressive programs like Penn Vet's shelter animal medicine program, led by Dr. Brittany Watson, continue to expand the definition of shelter medicine and the role that veterinarians and veterinary technicians play in reducing relinquishment and euthanasia of healthy, adoptable animals. For information, visit **vet.upenn.edu/research/centers-initiatives/shelter-medicine**.

THE TOP 10 THINGS
Every Shelter Technician Should Know and Do

1 Know your organization's capacity for care. This magic number depends on several factors, including the organization's mission, available resources, and number of qualified and trained staff. The good news is that you can figure it out before a heinous outbreak.

A number of resources exist to help your organization determine its unique capacity for care. Once established, there are many tips and tricks that you can learn to increase it in a healthy and productive way. Visit the Maddie's Fund website for more information: maddiesfund.org/capacity-for-care-learning-track.htm

2 Obtain at least a basic understanding of immunology and of infectious disease control. Which animals should receive a vaccination? When should an animal be vaccinated? What measures should be taken in the face of an outbreak, or better still, what measures should be implemented to prevent an outbreak? Most animals entering a shelter or rescue come with questionable backgrounds and histories. Intensively housed shelter animals make up a "herd of companion animals," where each individual animal is as vulnerable to disease as it is a potential hazard to the herd. Fortunately for today's shelter technicians, many advancements have been made in companion animal herd management tools and techniques over the past decade. A few good resources and references to help shelter technicians in this area are:

- ASPCA Pro Shelter Management website: aspcapro.org/shelter-management
- Greene C. *Infectious Diseases of the Dog and Cat.* 4th ed. Saunders; 2012.
- Miller L, Hurley K. *Infectious Disease Management in Animal Shelters.* Wiley-Blackwell; 2009.
- Miller L, Zawistowski S, eds. *Shelter Medicine for Veterinarians and Staff.* 2nd ed. Wiley-Blackwell; 2013.

3 Look around and outside your organization and understand the difference between what your shelter is doing and what other successful shelters are doing. Throughout my time in shelter medicine, when working with a shelter struggling with significant disease, I often heard the staff proclaim, "We didn't realize things were that bad," or "We thought all shelters were like ours." Find out what is going on in your sheltering community and beyond. Listen, borrow from, and support your fellow animal welfare organizations. Today, numerous online communities and local, regional, and national continuing education opportunities exist for shelter technicians.

- animalsheltering.org/expo
- navc.com
- pro.petfinder.com/calendar

4 Take advantage of online training opportunities in the field of shelter medicine. In addition to the many regional and national meetings with shelter medicine tracks, there are many online educational resources for shelter technicians to obtain the latest information on sheltering issues. Webinars are a free, easy, fun way to learn from and interact with fellow sheltering professionals. If you are truly inspired, look into obtaining an online master's degree in animal welfare through the University of Florida. Below are just a few websites offering free shelter medicine training opportunities.

- aspcapro.org/recorded-webinars.php
- petsmartcharities.org/pro/learn
- sheltermedicine.vetmed.ufl.edu/education/courses/

5 You don't have to be a shelter technician to help shelter animals. More and more people are realizing that animal homelessness and pet overpopulation are not shelter problems; they are community problems. If you are a private practice technician with a client who recently adopted an animal from a local shelter and you identify a health issue of concern, don't badmouth the shelter or dismiss it as a place for your clients to avoid when looking for their next companion. Instead, reach out to the shelter, let them know what you are seeing, and ask if there are ways that your practice can help. Not only is it the right thing to do for your community, but it will likely boost your practice's clientele. Visit The Humane Society's Pets for Life website for more information and ideas on how you can help! humanesociety.org/about/departments/pets-for-life

6 Remember that customer service saves lives. Some technicians elect to work in a shelter because they do not enjoy working with clients; however, the best thing a shelter technician can do for animals is to get them out of the shelter and into a forever home. Customer service is an important component of making that happen. Nothing frustrated me more during my time in shelter medicine than watching a family wandering around a shelter, clearly in search of a pet, without

As part of a UC Davis study of upper respiratory infections, Tess Kommedal and Michael Bannasch swab a cat at the Marin Humane Society in California.

anyone offering them assistance. Smile, be helpful, and be honest.

- → shelterskills.com
- → maddiesfund.org/when-adopters-show-up.htm

7 Take time out for yourself.
Compassion fatigue is a very real and a very serious issue among all shelter professionals. I can unequivocally report that during my 15 years of visiting shelters and speaking with technicians and doctors, the most well-adjusted, productive, and truly happy shelter professionals were those with an interest outside of shelter medicine. Being "the only one" who is capable of saving the lives of the animals in your shelter is a definite red flag and speaks to the shelter's capacity for care and/or your own need to take the time to work on your work–life balance. There are many resources for shelter employees faced with compassion fatigue, and many of those resources have been compiled at compassionfatigue.org.

8 Know and support your foster homes to achieve success together.
Shelters are constantly seeking alternatives to intake to alleviate the numbers of in-shelter animals that must be cared for at any given time. One popular method to achieve this goal is the use of foster homes, especially in the case of neonates; however, to be successful, a foster program must provide extensive training for foster families and offer continual oversight of their activities. An in-foster outbreak of parvovirus, panleukopenia, or ringworm often results in significant emotional trauma that leads to the loss of the affected foster home and may also severely affect the shelter's ability to recruit future foster homes because of negative reviews shared on social media. A good shelter technician possesses the expertise needed to support the physical and emotional well-being of the animals in foster care while at the same time supporting the emotional and physical well-being of their fostering families. The ASPCA Pro website offers a comprehensive listing of training opportunities on managing a foster home network: aspcapro.org/search/index/foster

9 Know the guidelines for standards of care in animal shelters, and make sure your organization is living up to them.
Published in 2010, the Association of Shelter Veterinarians' *Guidelines for Standards of Care in Animal Shelters* provides sheltering professionals with research-based guidelines to help them meet the physical, medical, and behavioral needs of the animals under their care. Used in concert with the handy shelter standards checklist offered by the ASPCA, these guidelines can help shelter technicians evaluate a shelter's capacity for care and set a course toward improvement.

- → The Standards: sheltervet.org/assets/docs/shelter-standards-oct2011-wforward.pdf
- → The ASPCA checklist: aspcapro.org/checklist

10 Be a positive, effective communicator.
Thankfully, due in large part to the advent of evidence-based shelter medicine research and practices, shelters no longer have to rely on word-of-mouth transfer of "traditional shelter practice." A large library of shelter practice resources now exists and grows every day. However, there are still those—shelter directors, managers, and medical staff, as well as city managers and/or board members—to whom these resources are new. Educate yourself and be a positive voice for change.