Chapter 6

Building Evidence-Based Programs to Eradicate Shelter Overpopulation

During the past 15 years, a great deal of preliminary information has been collected about the demographics and dynamics of homeless cat and dog populations in the United States, but much basic data still elude us. [388] In many areas, substantial gaps persist in the information needed to build strong evidentiary foundations for policies and programs:

- SHELTER ADMISSION POLICIES: In recent years, a vigorous debate has developed about whether the "open-door" policy followed by many traditional animal shelters is over-inclusive, admitting more cats and dogs than is necessary to serve the interests of the animals or the public. Some previously open-admission shelters have started to limit their acceptance of cats and dogs that owners seek to surrender or homeless cats in good health (Pages 68-71). Such limited-admission policies have been challenged as being under-inclu-

sive, resulting in non-admitted animals suffering inhumane treatment or lives of deprivation and disease that are "fates worse than death" (Pages 68-69).

Data have been collected that shed some light on this issue. In 1997, researchers interviewed 38 people who had relinquished a cat or dog to a Massachusetts shelter. They found that in most cases, the decision to relinquish the pet was not arrived at casually or for trivial reasons, suggesting that shelters may be able to reduce relinquishment rates by offering practical assistance and alternatives to relinquishment.[389] During the first four years after the Richmond SPCA offered counseling and assistance to those seeking to relinquish pets, 34.6% of the owners either re-homed the pet themselves or kept the pet and attempted to resolve behavior problems.[390] This was similar to the rate at which relinquishers decided to keep their pets after the Jacksonville Humane Society began offering them counseling and assistance.[391] These initiatives can help better inform relinquishment admission policies if follow-up studies are conducted to determine the outcome for each pet that has not been accepted by a shelter.

"Researchers, donors, and shelters all suffer as a result of the existing process. Researchers seek access to thorough, accurate and comparable data from shelters, yet often work with only a subset of moderately reliable information and have limited evidence to make broad recommendations across shelters. In addition, donors find it difficult to track the impact of their contributions and the effectiveness of various programs and organizations. Consequently, many funding decisions are currently made with only limited data. Finally, shelters often lack proper data to create tailored programs to address the most pressing problems in their communities. In many cases, time and money are likely misallocated to less important programs, directly affecting the amount of euthanizing performed each year."

Wenstrup J & Dowidchuk A (1999). Pet overpopulation: data and measurement issues in shelters. *J. Appl. Animal Welfare Sci*. **2** (4), 304.

In the same way that an open-admission shelter accepts responsibility for every animal it admits, a limited-admission shelter must accept a measure of responsibility for every animal it declines to admit. When it helps a pet owner re-home a pet instead of admitting it to the shelter, a limited-admission shelter should follow up on the placement to find out how it worked out, just as if it had made the placement itself. The data collected can be used to identify risk factors for adverse outcomes that can follow if an animal is not accepted. Then programs to reduce these risks can be devel-

oped and evaluated. In the absence of comprehensive information about outcomes, however, it will not be possible to determine whether a policy of accepting all cats and dogs an owner seeks to relinquish is too protective from the standpoint of animal welfare or a limited-admission policy regarding potential relinquishments is not protective enough.

> "Modern American society recognizes the crucial role of data and information in effectively addressing societal problems. . . . Addressing pet overpopulation should be no different. Data are needed in order to define the nature and scope of the dog and cat demographic challenge. Data can help people understand the impact of 'pet homelessness' on companion animals; to identify some of the characteristics of both successful and failed human-animal relationships; and to develop sound, effective, and long-lasting solutions that will strengthen humans' relationships with companion animals and enhance companion animals' welfare."
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> Clancy EA & Rowan AN (2003). Companion animal demographics in the United States: a historical perspective, The State of the Animals II, DJ Salem & AN Rowan (eds.), Washington, D.C.: Humane Society Press, 9.

A similar debate has developed in recent years regarding shelter admission policies for feral cats. Some animal welfarists believe that the feral lifestyle is so fraught with potential risk that the widespread admission of feral cats by shelters is humane, even if they must be euthanized.[392] Others believe that sterilized feral cats can enjoy a good quality of life over an extended period, even though they are homeless.[393] Determining the extent to which either impression is well founded will depend on acquiring a better understanding of the health and welfare of feral cats, both in managed and unmanaged situations.

- ADOPTION POLICIES AND PROGRAMS: The past decade has also seen a substantial increase in attempts to use adoption programs to reduce the frequency of population control euthanasias. Funders have invested tens of millions of dollars to assist shelters and rescue groups in their efforts to find new homes for shelter pets and the Advertising Council has recently undertaken a three-year national campaign to promote shelter adoptions.[394]

Previous pet acquisition and shelter adoption research can help inform these initiatives. Substantial gaps in the data remain, however. Statistics from the National Council's 1996 Household Survey regarding the great frequency with which U.S.

households take non-sheltered stray and homeless animals into their homes raise the concern that increasing the "market share" which shelter adoptions make up of new pet acquisitions may reduce the number of stray and abandoned pets that people take into their homes. For this reason, shelter adoption studies should include data about the rate at which non-sheltered homeless pets find homes.

They should also include retention data to insure that any gains from increased shelter adoptions are not offset by more failed adoptive placements. To maximize the effectiveness of adoption as a tool to reduce population control euthanasia rates, failed adoptions must be studied with the same rigor and methodology as that employed in the National Council's Regional Shelter Relinquishment Survey (Page 3). Epidemiologic research must be completed to identify the major risk factors for adoptive failures and subsequent research undertaken to measure the effectiveness of various strategies and interventions in reducing the rate of failed placements. The development and evaluation of standardized guidelines for adoption counseling would improve our understanding of the effect of counseling programs on retention rates.[395]

One study of offsite adoptions found that the retention rates of some placements outside shelters were similar to those of adoptions that had taken place in shelters (Page 64). It would be worthwhile to extend that research to offsite placements made at veterinary clinics. In 1992, a study of 75 cats and dogs placed through veterinary clinics in the San Francisco area found that after six months, 93% of the pets placed through veterinary clinics were still in their adoptive homes, compared to 80% of the pets placed by local shelters during the same period, and that veterinary clients had fewer unreasonable expectations about pets' roles in their own and their children's lives than people who adopted pets from shelters.[396] It may be that the greater ability of veterinary clinics to provide post-adoption counseling and other assistance to its clients can result in a higher rate of successful placements than is possible for those made through shelters.

- PET STERILIZATION PROGRAMS: The past decade has also seen a substantial increase in the amount of public and private funding provided to pet sterilization programs. During that period, tens of millions of dollars have been spent on a diverse array of programs. Some charge participants a set fee or co-payment to participate, others provide a voucher that participants can use to offset part of the cost of sterilization, and others provide the sterilization at no cost. Some programs limit eligibility to pet owners with very limited

incomes, others restrict a program to people who reside in certain areas or zip codes, and others open a program to every local resident. Some sterilize only specific subsets of cats or dogs, such as cats and dogs in shelters or feral cats, while others are open to any owned cat or dog.

Statistics from more than a dozen pet sterilization programs operating in different parts of the United States have shown that in some cases local shelter intake rates dropped after a program began, while in others the intake rates remained the same or even increased. To maximize the impact of funding devoted to pet sterilization programs, additional research is needed to determine whether programs associated with sustained reductions in local shelter intake rates share common characteristics with respect to their design, volume, or other factors.

Research has shown that low pet sterilization rates are associated with increased public expense through higher shelter intake rates and a higher incidence of dog bite injuries (Pages 9-10 and 27-28). As a result, programs that increase local pet sterilization rates can have substantial economic benefits. Analyses that compare the cost of programs that increase local pet sterilization rates with the resulting savings would provide policymakers with the information they need to decide whether and to what extent public funding for these programs is fiscally justified.

Issues that merit investigation include whether offering large subsidies to indigent pet owners is more cost effective than offering smaller subsidies to a broader range of pet owners and if the increased benefit derived from sterilizing younger pets justifies providing increased financial incentives for their sterilization. Other issues worthy of investigation include whether programs that target eligibility by localities or zip codes are more cost effective than those that use income levels to determine eligibility and whether an increase in the rate at which household cats have been sterilized affects the frequency with which they migrate to free-roaming status.

- FERAL CAT PROGRAMS: The most significant gap in current knowledge about cat and dog populations in the United States concerns feral and free-roaming cats. There may be as many stray and feral cats in the country as there are cats living in households, and they may produce as many as 80% of all the kittens born each year.[397] Debate about feral and free-roaming cats as a reservoir of zoonotic diseases and their impact on the environment and feline welfare is ongoing, often emotional, and fueled largely by a lack of sound scientific data on which to base credible conclusions.[398]

In recent years, attempts to control feral cat populations by trap/neuter/return programs have become an increasingly popular alternative to mass euthanasia,[399] with mixed results. In some cases, trap/neuter/return programs have successfully reduced feral cat populations, while in others their success has been substantially limited by the abandonment of household cats or their migration to feral colonies.[400] Relatively little research has been undertaken, however, to determine the origin of feral cats in most locations[401] or the effectiveness of attempts to manage feral populations.[402] Without a clear understanding of the origins and dynamics of feral populations, it will not be possible to design effective programs to manage them. Issues about feral cat management strategies will likely continue to be unresolved until basic data have been collected about the size of the feral population, its health and welfare, and the extent to which feral and free-roaming cats pose a risk to the health of owned cats or people.

- RELINQUISHMENT OF PETS: The surrender of pets to shelters is the most well-researched aspect of pet population dynamics in the United States. In the mid-1990s, Dr. Gary Patronek and colleagues conducted epidemiologic studies to identify the characteristics of pet owners and pets associated with increased rates of relinquishment to an Indiana shelter.[403, 404] They identified modifiable factors associated with an increased risk of relinquishment, such as lack of sterilization or participation in post-acquisition dog obedience classes, owners' unrealistic care expectations, and problematic pet behaviors like inappropriate elimination, aggression toward people or other pets, and destructive behavior.

These studies were followed by the Regional Shelter Relinquishment Survey, in which data were collected about pets relinquished to 12 shelters in four parts of the United States and their owners; this information was then compared to data from a national survey of pet-owning households in the country (Page 3).

"Certainly there are irresponsible people who surrender, but data suggest that more often ignorance and unfortunate circumstances culminate in relinquishment. This is good news, because it is difficult to rehabilitate irresponsible people, but somewhat easier to educate well-meaning, but uneducated owners or those caught in unfortunate circumstances."

Scarlett J (2004), Pet Population Dynamics and Animal Shelter Issues. Shelter Medicine for Veterinarians and Staff, L. Miller and S. Zawistowski (eds.) Ames, Iowa: Blackwell Publishing, 21.

Now that the major modifiable risk factors for relinquishment have been identified, researchers need to effectively communicate their findings to policymakers who, in turn, need to develop policies and programs to reduce them. Subsequent research will then be needed to determine which programs are the most effective in reducing relinquishment rates and to compare various possible interventions to decide which are the most cost effective.

- PUBLIC INFORMATION AND AWARENESS PROGRAMS: Attempts to educate pet owners about pet overpopulation date back to the 1950s.[405] Recently collected data can help inform and increase the effectiveness of these efforts.

Billions of dollars have been spent in the United States over the years to shelter and re-home animals that have become homeless; by 1996, however, shelters accounted for only 14.5% of the cats that entered American households and 11.5% of the dogs.[406] People took twice as many abandoned and stray dogs and cats into their homes from streets and neighborhoods that year as they adopted from shelters.[407] It would be worthwhile to undertake research about the factors people consider when deciding whether to acquire a cat or dog and from what source. These decisions are complex. In such cases, qualitative research such as structured interviews and focus groups may provide more insight than purely quantitative methods.[408] Without this information, marketing campaigns may fail to address attitudes and mistaken beliefs that constrain shelter adoption rates. Once that information has been collected, subsequent market research should be undertaken to test the effectiveness of different messages and messengers on target audiences.

Using educational campaigns solely for downstream strategies like adoption programs would fail to harness the vast potential that social marketing campaigns have; they need to be applied upstream, too.[409] A good example of the kind of research needed is a project The Humane Society of the United States undertook in 2007 to collect quantitative and qualitative information in Louisiana and Mississippi about why people sterilize—or fail to sterilize—their pets.[410] This type of research needs to be replicated in other regions of the country to find out if there is significant regional variation in attitudes and beliefs regarding pet sterilization. The results can then be used to shape regional and national public information and awareness campaigns.

Data from the National Council's 1996 Household Survey identified a significant knowledge deficit that deserves to be a primary focus of educational initiatives about

pet sterilization. More than half of all dog and cat owners either mistakenly believed that a cat or dog would benefit from having a litter before being spayed or did not know if she would or not.[411] This lack of knowledge has likely contributed to the great frequency with which pet owners delay having a female pet sterilized until well after her first estrus and the large number of pre-sterilization litters that result (Pages 91-94). Research regarding the effectiveness of various strategies and programs to reduce the incidence of pre-sterilization litters (e.g., veterinary counseling programs, financial incentives for sterilizations that are timely, and public information and awareness campaigns) would likely be of great value.

- LEGISLATIVE PROGRAMS: Legislative initiatives to reduce shelter overpopulation usually attempt to increase the local pet sterilization rate. Limited empirical data exist about how to accomplish that, however, and legislative approaches have varied widely both with respect to the groups subject to the laws and the mechanisms employed.[412] Some mandate pet sterilization or create disincentives for breeding, such as requiring the purchase of a license or permit to breed a cat or dog. Others create incentives to have pets sterilized by providing public funding for various pet sterilization subsidy programs. The lack of information about the demographics and dynamics of the pet population, however, makes it impossible to predict the effectiveness of any legislative approach with confidence.[413]

To inform legislative policy, basic research needs to be completed regarding the effectiveness of past legislative attempts to increase pet sterilization rates. The effectiveness and enforceability of mandates and disincentives need to be studied as well as the costs of enforcement. Establishing excessive disincentives for maintaining intact pets may lead to their relinquishment or abandonment. To avoid this, substantial differential licensing surcharges should not be enacted unless adequately funded low-income pet sterilization subsidy programs exist to bring neutering within the reach of every pet owner in the jurisdiction. The revenue from disincentives is an ideal source of funding for these programs.

Incentive programs to increase pet sterilization rates need to be scrutinized, too. As with any expenditure of public funds, cost-benefit data must be collected and analyzed periodically to determine the level of funding, if any, that is justified.

- REGIONAL VARIATION IN RATES OF SHELTER OVERPOPULATION: Rates of shelter overpopulation and population-control euthanasia vary wide-

ly in the United States from one region to another. This has led to the establishment of programs that transport pets from places with a high shelter euthanasia rate to those where it is lower. The shelter euthanasia rate is 10 times higher in some places than in others:

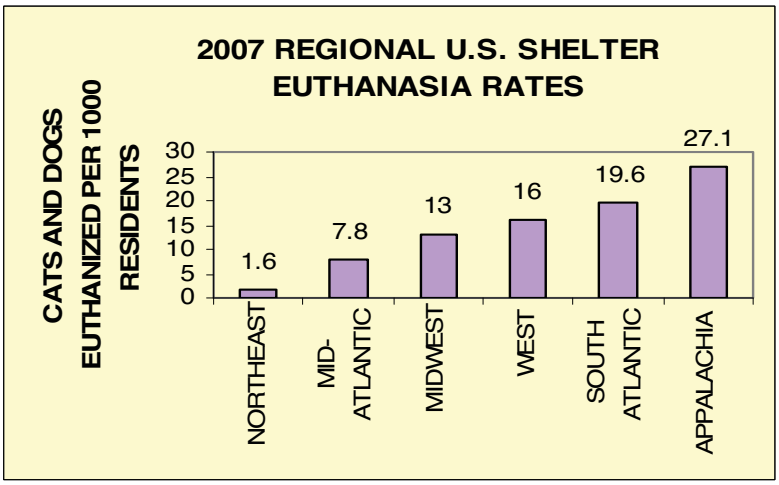

Figure 22.[414]

There is even substantial variation in shelter intake and euthanasia rates within individual states. In 2007, intake rates in some counties in California were more than four times higher than those in others.[415]

Research regarding regional variations in the demographics and disposition of shelter animals can help identify the factors that underlie them; to date, though, they have received only limited attention.[416] A better understanding of the process by which shelter intake and euthanasia rates have been reduced in some areas can help identify the programs that have contributed to the reductions and provide insights about the reasons for the success—or failure—of individual programs. Without such an understanding, it will be difficult to effectively allocate resources to the programs and policies that best address the root causes of overpopulation.

- EFFECTIVE ALLOCATION OF RESOURCES: Over the years, public and private shelters have provided most of the funding for overpopulation programs, but their ongoing responsibility for the animals in their care has limited the amount of resources that they could allocate to preventive programs. In recent years, however, private foundations have committed increasing

amounts of funding to overpopulation programs and are regularly faced with decisions about whether to fund downstream programs (e.g., offsite adoption programs or adoption transport programs) or upstream ones (e.g., pet sterilization programs or the construction of pet sterilization clinics).

"These results demonstrate that there are several cost-effective methods of reducing dog overpopulation. Spay/neuter campaigns are the most effective over long time horizons. Cost-effective numbers are shown here because they allow a common unit for the comparison of programs. It must be noted however that these cost-effective numbers are rough estimates at best, and are best interpreted as level-of-magnitude estimates of costs rather than precise forecasts, since public responsiveness and a number of other key variables are not known with certainty. Well-monitored pilot programs would be an ideal method for testing these costs."

Frank J (2004). An interactive model of human and companion animal dynamics: the ecology and economics of dog overpopulation and the human costs of addressing the problem. *J. Human Ecology* **32** (1): 127.

If a sheltering system is at capacity and every additional intake results in an animal being euthanized, an expenditure that results in one less animal entering the system has an equivalent life-saving impact to one that leads to the successful adoption of a shelter animal. Research regarding the comparative cost-effectiveness of expenditures in various upstream and downstream programs would help funders allocate their resources in ways that maximize their impact. The impact of adoption programs is immediate while the full impact of increased pet sterilization rates on shelter intakes may not be felt for many years,[417] a factor that must be taken into account when comparisons are made regarding the cost effectiveness of different strategies.

CONCLUSION: Preliminary research has been completed regarding several issues that affect the dynamics, volume, and demographics of cats and dogs that enter shelters in the United States, but much work remains to be done. Given the historical lack of data in the field, the strategies currently employed are based on many untested assumptions:

- **Pet sterilization programs:** Future research may show that resources should be directed at decreasing the frequency of pre-sterilization litters in addition to increasing the overall pet sterilization rate;

- **Adoption programs:** Research may identify currently underutilized offsite locations—such as private veterinary clinics—that could substantially increase the volume of successful shelter adoptions;

- **Feral cat programs:** Research may identify preventive strategies—such as low-income cat sterilization subsidy programs or stricter enforcement of laws against pet abandonment—that reduce the migration of household cats to free-roaming status and increase the effectiveness of trap/neuter/return programs;

- **Public information and awareness programs:** Research may identify the components and content of the educational programs that can most effectively augment pet sterilization and shelter adoption initiatives.

The emergence of shelter medicine as a veterinary specialty has come at an opportune time. The contribution veterinarians can make extends far beyond using their medical skills and training to enhance and protect the health of shelter animals. Veterinarians have the specialized training and an evidence-based approach that can catalyze the eradication of shelter overpopulation. Research regarding the causes of pet homelessness and effective strategies to overcome it can lead to breakthroughs in both upstream and downstream strategies and to the more effective allocation of resources between the two.

The last decade has seen a substantial increase in funding for pet sterilization and adoption programs. There also has been a proliferation of legislative attempts to reduce shelter overpopulation. Progress, though, has been slow and halting, compared to the steady and sustained progress of the previous two decades:

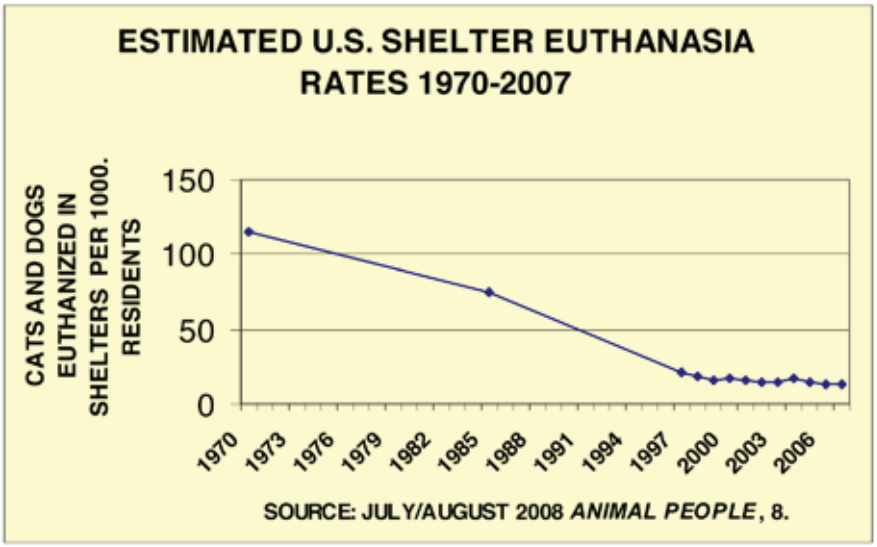

Figure 23.

A likely factor in the slowing of progress is that as intake rates decrease, the interventions necessary for further progress must be more accurately targeted in order to effectively address the remaining sources of overpopulation.

Without data-driven programs, future efforts to eradicate the use of population control euthanasia will continue to involve trial and error, with the delays and inefficiencies that entails. Data from jurisdictions that have made the greatest progress suggest that shelter euthanasia rates can be reduced from the current level of about 14 Pets Per Thousand People (PPTP)[417] to 3 PPTP or less. At the current rate of progress, it will take another two decades or more to fully eradicate shelter overpopulation in the United States. Accomplishing that more quickly will require an increased commitment to the development and implementation of evidence-based programs.

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