

COMMUNITY CASE STUDY

Tag! You're Home! Reunification of Pet Cats With Their Owners Using a Community Engagement Approach: A Community Case Report

Aimee M. Dalrymple^{1*}, Nina E. Stively² and Rachael E. Kreisler³

¹Shelter Veterinary Care Consulting LLC, Natick, MA, USA; ²Loudoun County Animal Services, Leesburg, VA, USA;

³Midwestern University College of Veterinary Medicine, Glendale, AZ, USA

Abstract

Return to Owner (RTO) percentages for cats in shelters are reported as low as 3%. However, the percentage of recovered pet cats located within their own neighborhoods is much higher. Loudoun County Animal Services, an open-admission shelter with an annual intake of 2,300 animals (46% cats), developed the Tag! You're Home! Program (TYHP). This program encourages finders to return un-microchipped healthy social adult cats to their neighborhoods with a collar containing the shelter's contact information. Finders can return them for intake after 5 days. Between 7/1/2022 and 12/31/2023, 476 stray cats were admitted, 253 (53%) of which were adults. Of the 32 cats enrolled in TYHP as an alternative to intake, 31% were confirmed RTO via owner contact, 31% did not require additional services, 19% were brought back for intake, 13% were kept by finders, and 6% were rehomed by finders. For the cats admitted, the adult RTO rate was 28%. Cats returned to owners through the shelter were found a median of 0.27 km (interquartile range 0.07–2.5), or approximately 2.7 city blocks, from home. Over 80% of TYHP cats did not require shelter intake, with a 31% confirmed RTO rate. The TYHP reduced the intake of adult stray cats by 9% while maintaining similar RTO rates.

Keywords: *lost cat; stray cat; microchip; identification; managed intake; Return to Owner; community engagement; Return to Home*

Received: 29 August 2024;
Revised: 6 November 2024;
Accepted: 12 December 2024
Published: 3 January 2025

Correspondence

*Aimee M. Dalrymple
841 Worcester St
Suite E-114
Natick
MA 01760
USA
Email: amddvm@gmail.com

Reviewers

Missy Matusicky
Molly Sumridge

Supplementary material

Supplementary material for this article can be accessed here.

Reunification of lost pets with their owners is a key function of United States animal shelters, but reported Return to Owner (RTO) percentages (the number of animals returned to their owners divided by the total number of shelter outcomes) are as low as 3% for cats.^a Few owners contact animal shelters about their missing pet cats, and those who do tend to wait 3 days or more.¹ Many jurisdictions do not have mandated stray hold periods for cats,^b so this delay in reunification increases the risk of an outcome other than the desired reunification of the pet cats with their families. In other communities, these cats may linger in the shelter environment experiencing high stress and increased risk of disease.^{2,3}

Surveys of United States pet owners reported that lost pet cats were most commonly recovered by searching within their own neighborhoods (7–30%) or by simply waiting for them to come home (59–66%).^{1,4} Given these circumstances, free-roaming pet cats without any identification seem more likely to find their way home within their own neighborhoods than by intake to the shelter, and shelters may better serve their communities by leaving healthy cats in place and helping finders reunite them with their owners.⁵ This approach could operate in concert with other options for healthy free-roaming cats, such as trap-neuter-return (TNR) programs in jurisdictions where such programs are legal. The purpose of this community case study was to measure the impact of a program designed to reunite pet cats with their owners by returning them to their neighborhoods without intake. The primary research objective was to assess the RTO rate for the new program compared to the RTO rate after intake

a. Shelter Animals Count 2023 Annual Analysis. Published online 2024. Accessed October 30, 2024. <https://www.shelteranimalscount.org/wp-content/uploads/2024/01/Full-Year-2023-Report.pdf>

b. State Holding Period Laws for Impounded Animals | Animal Legal & Historical Center. Accessed June 18, 2024. <https://www.animallaw.info/topic/state-holding-period-laws-impounded-animals>

to the shelter (traditional RTO), with the secondary objective of mapping the distance lost pet cats were found from their homes.

Background

The shelter

Loudoun County Animal Services (LCAS) is a municipal open-admission animal shelter with an annual (2023 data) intake of 2,300 animals (46% cats). LCAS is the sole provider of public animal sheltering and humane law enforcement services for approximately 430,000 residents. In 2021, LCAS relocated from an aging animal shelter in rural Waterford, Virginia, to a newly constructed 23,000-square-foot facility in centrally located Leesburg, Virginia. LCAS is staffed by 48 full-time employees, including 13 sworn humane law enforcement officers and two veterinarians. The veterinary team primarily not only serves in-shelter animals but also hosts monthly low-cost clinics for public-owned animals for vaccinations and spay/neuter for outdoor cats. While the agency is able to provide sterilization services for individual owners of outdoor cats and rescues working to TNR these cats, they are unable to offer TNR directly, per the Virginia State Attorney General's 2013 opinion,⁶ which indicates that TNR performed by a public animal shelter constitutes unlawful abandonment.

The community

Loudoun County routinely tops national 'highest income' lists due in part to technology, data, government, and consulting professions and features a combination of urban and rural landscapes over 521 square miles. Nearly 65% of residents hold a bachelor's degree or higher, and approximately 36% speak a language other than English at home.^c The community is supportive of and engaged with LCAS and other local humane groups.

Traditional RTO efforts

Stray animals, including cats, are held for 5 days, per County ordinance.⁷ After this stray hold, they are dispositioned, either through adoption, transfer to partner agency, or euthanasia. While reclaim fees are listed (\$35 for impound, \$10 per day), the staff will routinely work to assist pet owners to ensure that fees are not a barrier to sterilization or reclaim. Sterilization cannot be required for reclaim within the legal stray hold time period. LCAS has historically utilized an aggressive approach to reunifying lost cats and dogs with owners, including social media searches, networking with local lost pet advocates, immediately posting photos of found pets on the website,

and hanging signs in the area where an animal was found. Animal control officers scan for microchips in the field and, if possible, reunite animals with their owners without physical intake to the shelter. In addition, LCAS works proactively to promote high rates of dog licensing, free microchipping for county residents, and free microchipping on reclaim or closure of a lost pet report and has a longstanding message to the community that promotes calling the agency as soon as a pet is lost.

Tag! You're Home! Program

LCAS discourages shelter intake of healthy free-roaming adult cats due to the observation that lost cats are less frequently reunited with their owners through the shelter than alternatives such as returning home on their own. There is no mandate to intake free-roaming cats. However, finders of free-roaming cats often believe that the best way to help social, healthy, free-roaming cats is to bring them to the shelter and are frequently dissatisfied with the recommendation to simply return the cats to where they were found. LCAS implemented the Tag! You're Home! Program (TYHP) in July 2022 to provide greater support to finders of free-roaming cats while preventing the intake of cats that do not require assistance.

Front desk staff evaluate cats presented by finders for inclusion in the TYHP. Cats must be social, as defined by the finder's ability to handle them, over 6 months, healthy, not visibly pregnant, without a registered microchip, and not found in an unsafe environment. Finders who consent to program enrollment are advised to place the cat back where it was found and not provide food. Finders are offered flyers to post in the neighborhood and/or a yard sign with the shelter's contact information. If the cat is still present after 5 days and an owner has not called the shelter, the finder can bring the cat back for intake. Cats enrolled in the TYHP are photographed, profiled as 'found' in the shelter's database (Chameleon) with the found address, if provided, and collared with a breakaway collar^d (Supplementary material 1). The collar buckle has the intake number and a bracket stating 'Am I your cat? If so, call...' with a text-enabled cell phone number provided. Staff use a series of public-friendly flowcharts in English and Spanish and pop-up guidance in the shelter database to provide consistent directions to finders. Program costs to the shelter include the collars (approximately \$15 per cat) and printing costs for posters and yard signs (from \$3 to \$30 per cat). There is no cost to the finder.

Methods

Records of cat intakes with an intake type of stray between 1/1/2016 and 12/31/2023 (expanded study period) were exported from the shelter's database, with the subset

c. United States Census Bureau, Loudoun County, Virginia. Accessed Aug 22, 2024. https://data.census.gov/profile/Loudoun_County,_Virginia?g=050XX00US1107

d. Custom-made collar, <https://www.etsy.com/shop/yoyoffly>

of records from 7/1/2022 (program start date) through 12/30/2023 constituting the TYHP study period. Cats with outcome or intake subtypes that could not include lost cats or were unable to indicate an outcome of RTO were excluded. Specific exclusion factors included outcome subtype of disposal or died enroute to shelter and intake subtypes of abandonment, eviction, and community services (such as holds for victims of domestic violence). No cats enrolled in the TYHP were excluded.

The records included ID, intake date, intake subtype, outcome date, outcome subtype, estimated date of birth (DOB), sex, neuter status, Asilomar rating,^e location found address, and the owner's address for outcome type of RTO. Age was calculated by subtracting the DOB from the intake date, and length of stay (LOS) by subtracting the intake date from the outcome date. Adult cats were defined as cats >6 months of age or missing a DOB. The traditional RTO rate was calculated by dividing the number of intakes with an outcome type of RTO by the number of intakes that could potentially have an outcome of RTO. RTO via TYHP was defined as an owner contacting the shelter to confirm ownership and the TYHP RTO rate the number of enrolled cats with an outcome of RTO divided by the number of cats enrolled in the TYHP.

Statistical methods

Descriptive statistics were used to summarize the shelter data, with the median and interquartile range (IQR) reported as Q1 and Q3 to describe the skew of the data. Intake and outcome addresses were geocoded using Geocodio. Only addresses with accuracy of rooftop (a specific address), nearest rooftop match, range interpolation (specific address between two addresses), or intersection were analyzed. Addresses that did not resolve with satisfactory accuracy with Geocodio but appeared to be in a legitimate format had the longitude and latitude determined via Google Maps. Geocoded data were analyzed using Tableau 2024.1 to generate maps and calculate the Euclidean distance from found to home address.

Results

Program study period 7/1/2022 and 12/31/2023

Between 7/1/2022 and 12/31/2023, there were 1,584 total intakes of cats to the shelter, 500 of which had an intake type of stray. Five intakes were excluded based on outcome type (4 presented for disposal) and 19 based on intake subtype, for a total of 476 intakes with a potential outcome of RTO. Two cats had two intake records each during the study period, resulting in 474 unique cats

for the 476 intakes. Of these 476 cat intakes, there were 109 with an intake subtype of field, 365 over the counter, and two unspecified. Slightly over half (53%) were adults (253/476), including nine that did not have a DOB specified. Adults had a median age of 30 months (IQR 12 to 60) and median LOS of 8 days (IQR 1 to 15). Those with an outcome of RTO had an LOS of 1 day (IQR 0 to 3). Of the adult stray cats, 34% (86/253) had an Asilomar status of healthy, 15% (38/253) treatable-manageable, 19% (47/253) treatable-rehabilitatable, and 32% (81/253) untreatable-unrehabilitatable. Forty adult intakes had an Asilomar status other than healthy for behavioral reasons, which included fearful (14), feral cat >8 weeks (22), high-arousal (3), and reactive to same species (1). There were 15 intakes assigned an Asilomar status other than healthy due to geriatric age.

Traditional RTO outcomes

Of the 476 stray cat intakes with the potential for an outcome of RTO, 79 (17%) had an outcome of RTO (Table 1). Of these 79 intakes, 76 (96%) were adults and 3 (4%) were juveniles. For the subset of adult cat intakes, 30% (76/253) had an outcome of RTO. When considering just healthy adult cats, 27% (23/86) had an outcome of RTO. The most common outcome subtypes (Table 2) for cats RTOed through the shelter were owner called/visited (22%), microchip (32%), or microchip scanned in field (15%). Two cats contributed two intakes, with one of these cats having an outcome of RTO for both intakes (only one intake had a found address), and the other an outcome of adoption for the first intake and RTO for the second. This resulted in 78 unique cats having an outcome of RTO. Of these, 14% (11/78) had a spay/neuter surgery scheduled after being offered the procedure at low or no-cost at the time of owner contact, with two being juveniles and nine being adult.

TYHP outcomes

There were 32 cats enrolled in the TYHP as an initial alternative to intake, with a median age of 18 months (IQR 12 to 24). Of these 32 cats, 10 (31%; 95% CI: 16 to 50) were

Table 1. Outcomes for cat intakes with the potential for an outcome of return to owner during the study period of 7/1/2022 and 12/31/2023 for the entire population, subset of adult population, and subset of healthy adult population, *n* (%)

	All (<i>n</i> = 476)	Adult (<i>n</i> = 253)	Healthy adult (<i>n</i> = 86)
Adoption	330 (69%)	134 (53%)	61 (71%)
Return to Owner	79 (17%)	76 (30%)	23 (27%)
Transfer	5 (1%)	5 (2%)	2 (2%)
Died	10 (2%)	3 (1%)	
Euthanasia	52 (11%)	35 (14%)	

e. American Society for the Prevention of Cruelty to Animals. Asilomar Accords: Definitions. Accessed Oct 30, 2024. <https://www.aspc.org/about-us/aspc-policy-and-position-statements/asilomar-accords-definitions>

Table 2. Outcome subtype for cats with an outcome of return to owner during the study period of 7/1/2022 and 12/31/2023, including all cats and the subsets of juvenile and adult cats, *n* (%)

	Juvenile (<i>n</i> = 3)		Adult (<i>n</i> = 76)		All (<i>n</i> = 79)	
Found poster or sign	0	0%	4	5%	4	5%
Known to staff or AC	0	0%	11	14%	11	14%
Lost report	0	0%	3	4%	3	4%
Microchip	1	33%	24	32%	25	32%
Microchip (field)	0	0%	12	16%	12	15%
Missing	1	33%	2	3%	3	4%
Other	0	0%	1	1%	1	1%
Owner call or visit	1	33%	16	21%	17	22%
Staff research	0	0%	3	4%	3	4%
Total	3		76		79	

RTO, 10 (31%; 95% CI: 16 to 50) did not require additional services (not brought back by the finder), six (19%; 95% CI: 7 to 36) were brought back by the finder after 5 days for intake, four (13%; 95% CI: 4 to 29) were kept by the finder, and two (6%; 95% CI: 1 to 21) were rehomed by the finder. Of the six cats brought back to the shelter for intake, one had an outcome of RTO through the shelter, and five had an outcome of adoption. LOS for this RTOed cat and the adopted cats was 7 and 8 days (IQR 8 to 10), respectively. Of the 10 cats returned to owner via the TYHP, nine were already altered, and the intact cat was scheduled for a no-cost sterilization surgery through the public clinic, where it also received a microchip. Two previously sterilized cats received a no-cost microchip at the walk-in public clinic.

Twenty-six of the cats enrolled in the TYHP did not require intake, representing 9% (26/279) of potential adult stray cat intakes (253 adult stray cat intakes+26 TYHP cats not requiring intake), 5% (26/502) of overall potential stray cat intakes (476 stray cat intakes+26), and 23% of the 112 potential intakes of healthy adult cats (86 healthy adult stray cat intakes+26). The 32 cats enrolled in the TYHP would have accounted for 28% of healthy adult cat intakes had they been taken into the shelter (32/[32 + 86]).

Expanded study period 2016 through 2023

There were 7,763 feline intakes between 2016 and 2023, 2,775 of which had an intake type of stray. Of these, 112 were excluded (102 for intake subtype and 10 for outcome subtype), leaving 2,663 stray cat intakes, 322 of which had an outcome type of RTO. The median LOS for cats with an outcome type of RTO was 1 (IQR 0 to 4).

Distance from intake address to home address

Of the 322 included stray cat intakes, 310 had a home address that was accurate to rooftop (301), range

interpolation (5), nearest rooftop match (1), or resolved using Google Maps (3). For location found addresses, 208 were accurate to rooftop (199), range interpolation (3), nearest rooftop (2), intersection, or resolved using Google Maps (3). There were 198 records with accurate locations for both home and found addresses, representing 61% of the 322 stray cat intakes. Cats RTOed through traditional RTO methods were found a median of 0.27 km (IQR 0.07–2.5; range 0–2,275), or approximately 2.7 city blocks, from home (Fig. 1). The distance between the found and home address was not different by outcome subtype (Table 3), $P = 0.878$. Four cats had a home address in another state. The 50 cats with accurate locations during the TYHP study time period were found a median of 0.4 km (IQR 0.06–4.05; range 0–130), or approximately four city blocks, from the found address. The cat initially enrolled in the TYHP with subsequent intake and outcome of RTO was found 0.08 km from home.

Change in intake and proportion of RTO over time

Between 2016 and 2023, the proportion of stray cats admitted to the shelter with an outcome of RTO was a median of 13% (IQR 12 to 17). The proportion of RTO through traditional means was highest in the year 2023 (22%) and third-highest in 2022 (16%), suggesting that the TYHP did not decrease the traditional RTO rate (Fig. 2).

Program feedback

All owners who contacted the shelter after discovering the TYHP collar on their cat did so within 3 days and texted rather than phoned. Anecdotally, owners exhibited confusion as to why their cats were collared, but once the program was explained, the response was overwhelmingly positive. One cat had two separate residences claim ownership. No collar injuries were reported, and no collars were returned to the shelter.

Discussion

The TYHP diverted more than 80% of stray healthy adult cats without intake to the LCAS municipal animal shelter, decreasing shelter intake of adult stray cats by 9% after the program was introduced. Nearly one-third of these cats were confirmed to be successfully reunited with their families. LCAS enjoyed an enviable baseline of 13% RTO percentage for all cats over the past 7 years (expanded period) and 17% RTO percentage for all cats during the program period, much higher than the reported current national average of 3%.^a The nature of cat lifestyles and lack of identification are two factors that may contribute to the generally low RTO rate for cats nationally.

Cat lifestyles

First, outdoor cats may not be considered lost. Cats' lifestyles include indoor-only, outdoor-only, or a combination

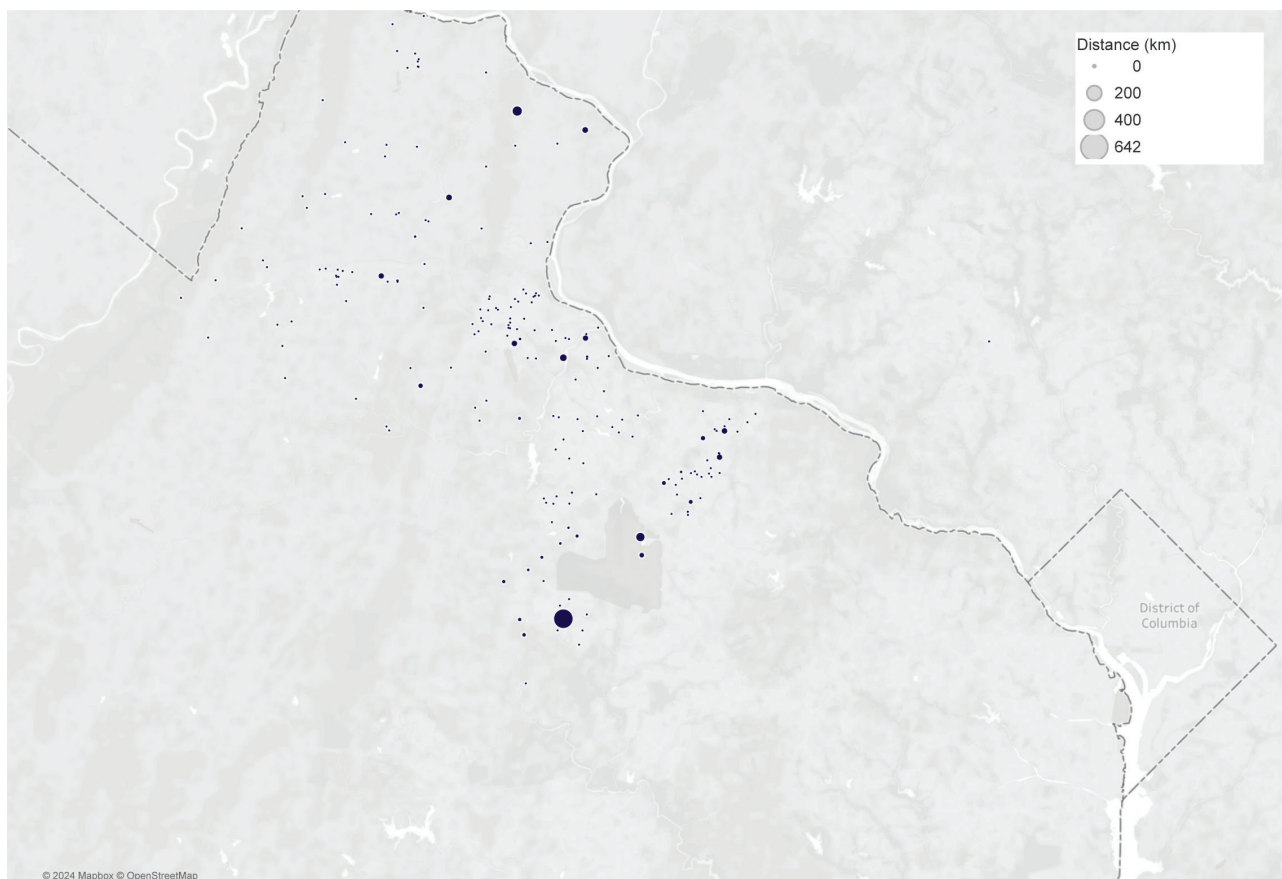


Fig. 1. Symbol map of distance between found and home address during the period of 2016 to 2023. Size of circle corresponds to distance from home address.

Table 3. Distance between found and owner addresses for outcome subtypes of cat intakes with an outcome type of return to owner

	n	Median	IQR		Range	
External ID	2	0.23			0.04	0.42
Found poster or sign	4	0.16	0.08	10.05	0.03	19.94
Known to staff or AC	9	0.00	0.00	9.92	0.00	23.49
Lost report	4	0.56	0.21	2.22	0.11	3.62
Microchip	26	0.49	0.16	2.1	0.00	148.37
Microchip (field)	10	0.30	0.08	2.02	0.01	57.00
Missing	72	0.27	0.10	3.35	0.00	1479.00
Other	20	0.37	0.08	2.15	0.00	74.91
Owner call or visit	47	0.27	0.05	1.86	0.00	2274.9
Staff research	4	0.22	0.11	0.19	0.06	0.24

of both environments (indoor-outdoor), with each option having attendant risks and benefits.⁸ Therefore, pet cats may be seen outdoors along with stray, abandoned, and free-roaming cats.⁹ A 2021 survey of North American cat owners showed that 21% allowed their cat uncontrolled outdoor access.¹⁰ LCAS shelter staff educate the public about

these differing cat lifestyles and recommend that healthy adult free-roaming cats remain in their neighborhood.

Identification

Physical forms of identification such as microchips, collars, and tags can distinguish these pet cats and facilitate their return to home,^{11–13} but are not commonly provided by cat owners.^{1,4,10} Microchips provide reliable and permanent identification if the ownership information is properly registered.^{11,13} Scanning in the field is a recommended practice for the quickest reunification of lost pets with their families.^{6g} LCAS actively promotes microchipping pet cats and educates owners about maintaining current contact information. Presumed stray animals are scanned in the field, at intake to shelter, and at the time of microchip implant. Collars are well-retained and tolerated by most cats;^{12,13} the risk of serious injury or death is rare and less likely than other hazards of the outdoor cat lifestyle,

f. Alley Cat Allies, Plan to Scan. Accessed Aug 23, 2024. <https://www.alleycat.org/take-action/plan-to-scan/>

g. Best Friends Network Partners. Field Return to Home (Owner) Training Playbook. Accessed Aug 23, 2024. <https://network.bestfriends.org/education/manuals-handbooks-playbooks/field-return-home-owner-training-playbook>

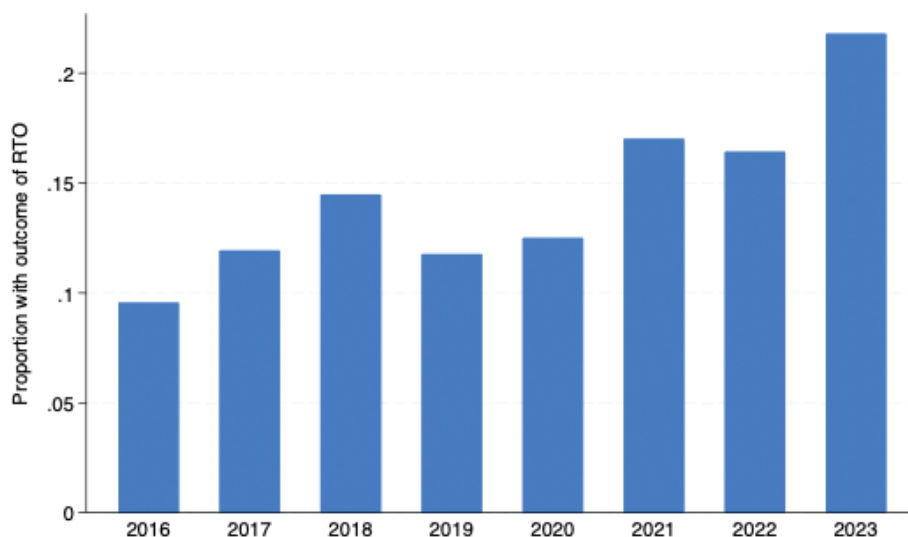


Fig. 2. Proportion of cat intakes with an outcome of return to owner (RTO) from years 2016 to 2023.

such as animal conflicts and traffic accidents.^{13–15} No collar injuries were reported during the study period.

Distance from home

This study, to the authors' knowledge, is the first to use United States animal shelter RTO data to map lost and found locations for cats. The median distance from home was fairly close by – less than three city blocks – congruent with the only other reports in the published literature that also showed that lost pets were found close to home. One international survey reported a median distance of 50 m from home for lost pet cats.¹⁶ Another study noted that 70% of lost pet dogs were less than 1 mile from home with 42% less than one block.¹⁷

Community relations

Given that most cats were found relatively close to home, checking with neighbors would likely be a good first step to finding a pet cat's owner. Posting neighborhood signs has been reported to have the highest success rate of any search method used to find a lost cat.¹ However, the TYHP experience demonstrates that concerned finders often seek help from the animal shelter. Americans do not know their neighbors as well now as they did in the past,¹⁸ which may explain the reticence in approaching their neighbors directly. With programs such as TYHP, the animal shelter can serve as a point of connection to keep animals in an environment where they are safe and cared for and ensure that pet owners and concerned finders have access to the resources needed to reduce unnecessary shelter intakes. In implementing such a program, municipalities should also be mindful of public opposition, potentially from groups or individuals who oppose free-roaming cats on principle. Pre-launch efforts to develop consistent messaging and data-based public information campaigns will likely

support the success of the program, even when faced with opposition.

Community cat management

TYHP addresses a specific subpopulation of adult cats presented to LCAS, namely, healthy, free-roaming, socialized, and un-microchipped adult cats with engaged finders. This program operates in concert with the low-cost spay/neuter services for outdoor cats offered to the general public and to Loudoun-based community cat partner agencies. Due to the legal definition of abandonment in this jurisdiction,⁸ LCAS cannot return free-roaming cats to their community after spay/neuter surgery as practiced in TNR programs for community cats in other areas of the United States. Most cats (9/10) returned to owner via TYHP were already sterilized. The return of a free-roaming cat to the outdoors without sterilization first may be controversial from the larger perspective of population control, but for the individual cat that fits the specific TYHP parameters, that risk is outweighed by the benefit of a quick reunification without stressful and unnecessary intake to the shelter. This program allows the animal shelter to discuss spay/neuter and microchipping services with the owner, as LCAS cannot legally sterilize an animal without the owner's permission. The owner of the single intact cat returned via TYHP brought the cat back to the shelter for sterilization surgery and a microchip.

Cost savings

TYHP saved LCAS costs associated with intake, housing, and care of cats, which can range from \$15 to \$80 per day. Even the maximum \$45 expense of involvement in the TYHP costs less than the lowest estimate of \$15/day involved with caring for a cat over the mandated 5-day stray hold period (\$75). Keeping healthy free-roaming

cats out of the shelter also reduces overcrowding and the risk of contagious disease, which, at LCAS, costs an average of between \$40 and \$200 per cat to treat, including staff labor. Depending on their mandated stray hold period and shelter metrics, many shelters could realize similar cost savings.

Limitations

This is a community case study involving a single shelter with a relatively small intake of cats, located in a relatively small and high socioeconomic status community, that has an unusually high RTO rate for cats. However, given that traditional RTO rates did not decrease as compared to the 6 years prior to program implementation, the TYHP may serve a different population of cats that may be less likely to be rehomed via traditional RTO methods employed by LCAS, which rely heavily on the presence of a microchip and owners who proactively call the shelter. Comparison to years prior to 2021 is complicated by a change in the physical location of the shelter. The number of finders who were offered enrollment into the program was not tracked, so the acceptability of the program to finders cannot be determined, although given that the 32 TYHP cats would have accounted for 28% of the healthy adult stray cat intake, the program may be estimated to be acceptable to nearly a third of finders. The outcome of the 10 cats (31%) that did not return for further services (no owner contact and no finder follow-up) is not known, and although the assumption was made that these cats were being cared for within the community based on their finders' engagement and concern for their welfare, other possibilities could include non-compliance, intake to another organization, or even death. However, LCAS provides disposal services for dead animals with a collar, and no TYHP cats were reported for this service. Twenty-four cat intakes with an intake type of stray were excluded on the basis of outcome and intake subtype based on the fact that those cats either could not have had an outcome of RTO or would not include potentially lost cats. This may complicate the comparison of RTO rates between this and other shelters. However, less than 5% of the stray cat intakes were excluded, which would have a negligible effect on RTO rates (e.g. the overall RTO rate was 17% with a denominator of 476 and 16% with a denominator of 500). Finally, due largely to incomplete data on found address, only 61% of found to home distances could be determined.

Conclusion

Over 80% of cats enrolled in the TYHP did not require intake to the shelter, and over 30% had a confirmed RTO outcome through the program. While this was very similar to the 30% RTO rate reported during the same period

for adult cats with intake to the shelter, the TYHP provided a valuable tool to RTO cats that do not have registered microchips without reducing RTO rates through traditional means. Shelter intake of adult stray cats was reduced by 9%. Cats with an outcome of RTO were found very close to home, typically less than 3 city blocks.

Author contributions

Aimee Dalrymple: Conceptualization, Investigation, Supervision, Visualization, Writing-original draft, Writing-review and editing; Nina Stively: Conceptualization, Data Curation, Investigation, Project administration, Writing-original draft, Writing-review and editing; Rachael Kreisler: Conceptualization, Data Curation, Formal Analysis, Methodology, Investigation, Supervision, Visualization, Writing-original draft, Writing-review and editing.

Acknowledgments

The authors would like to acknowledge Loudoun County Animal Services for sharing their data and experience in returning cats to home.

Conflict of interest and funding

The authors declare no potential conflicts of interest.

Author notes

Previous abstract presentations:

1. American Board of Veterinary Practitioners Symposium, New Orleans, LA, April 26, 2024.
2. The Humane Society of the United States Animal Care Expo, 'The Right Outcome for Every Cat: Implementing the Cat Superhighway', San Antonio TX, May 15, 2024.
3. ASPCA AAWA Research Forum, virtual, October 30, 2024.

Previous abstract publication:

Dalrymple, A., Stively, N., & Kreisler, R. (2024). Tag! You're Home! Reunification of Pet Cats with their Owners Using a Community Engagement Approach. *Journal of Shelter Medicine and Community Animal Health*, 3(S1). <https://doi.org/10.56771/jsmcah.v3.98>

Previous preprint publication:

Dalrymple, A., Stively, N., & Kreisler, R. (2024). Tag! You're Home! Reunification of Pet Cats with their Owners Using a Community Engagement Approach: A Community Case Report. <https://doi.org/10.31219/osf.io/tsrx4>

References

1. Lord LK, Wittum TE, Ferketich AK, Funk JA, Rajala-Schultz PJ. Search and Identification Methods that Owners Use to Find a Lost Cat. *J Am Vet Med Assoc*. 2007;230(2):217–220. doi: 10.2460/javma.230.2.217

2. Tanaka A, Wagner DC, Kass PH, Hurley KF. Associations among Weight Loss, Stress, and Upper Respiratory Tract Infection in Shelter Cats. *J Am Vet Med Assoc.* 2012;240(5):570–576. doi: 10.2460/javma.240.5.570
3. Dinnage JD, Scarlett JM, Richards JR. Descriptive Epidemiology of Feline Upper Respiratory Tract Disease in an Animal Shelter. *J Feline Med Surg.* 2009;11(10):816–825. doi: 10.1016/j.jfms.2009.03.001
4. Weiss E, Slater M, Lord L. Frequency of Lost Dogs and Cats in the United States and the Methods Used to Locate Them. *Anim Open Access J MDPI.* 2012;2(2):301–315. doi: 10.3390/ani2020301
5. Hurley KF, Levy JK. Rethinking the Animal Shelter's Role in Free-Roaming Cat Management. *Front Vet Sci.* 2022;9. doi: 10.3389/fvets.2022.847081
6. Cuccinelli Kenneth T, II, Attorney General. Official Advisory Opinion in Accordance with § 2.2-505 of the Code of Virginia. Published online July 12, 2013. https://www.oag.state.va.us/files/Opinions/2013/12-100_Napier.pdf
7. *Confinement and Disposition of Stray Animals.* Vol 612. 16. https://codelibrary.amlegal.com/codes/loudouncounty/latest/loudounco_va/0-0-0-2331#JD_612.16
8. 2024 AAFCP Indoor/Outdoor Lifestyle Position Statement. *J Feline Med Surg.* 2024;26(2):1098612X241227827. doi: 10.1177/1098612X241227827
9. Halls V, Bessant C. Managing Cat Populations Based on an Understanding of Cat Lifestyle and Population Dynamics. *J Shelter Med Community Anim Health.* 2023;2(S2). doi: 10.56771/jsmcah.v2.58
10. Tan SML, Jajou S, Stellato AC, Niel L. Perspectives of Canadian and American Cat Owners on Provision of Uncontrolled Outdoor Access for Owned Domestic Cats. *Front Vet Sci.* 2021;8:742245. doi: 10.3389/fvets.2021.742245
11. Lord LK, Ingwersen W, Gray JL, Wintz DJ. Characterization of Animals with Microchips Entering Animal Shelters. *J Am Vet Med Assoc.* 2009;235(2):160–167. doi: 10.2460/javma.235.2.160
12. Weiss E, Slater MR, Lord LK. Retention of provided Identification for Dogs and Cats Seen in Veterinary Clinics and Adopted from Shelters in Oklahoma City, OK, USA. *Prev Vet Med.* 2011;101(3):265–269. doi: 10.1016/j.prevetmed.2011.05.008
13. Lord LK, Griffin B, Slater MR, Levy JK. Evaluation of Collars and Microchips for Visual and Permanent Identification of Pet Cats. *J Am Vet Med Assoc.* 2010;237(4):387–394. doi: 10.2460/javma.237.4.387
14. Arhant C, Heizmann V, Schauburger G, Windschnurer I. Risks and Benefits of Collar Use in Cats (*Felis catus*); A Literature Review. *J Vet Behav.* 2022;55–56:35–47. doi: 10.1016/j.jvbeh.2022.07.012
15. Calver MC, Adams G, Clark W, Pollock KH. Assessing the Safety of Collars Used to Attach Predation Deterrent Devices and ID Tags to Pet Cats. *Anim Welf.* 2013;22(1):95–105. doi: 10.7120/09627286.22.1.095
16. Huang L, Coradini M, Rand J, et al. Search Methods Used to Locate Missing Cats and Locations Where Missing Cats Are Found. *Animals.* 2018;8(1):5. doi: 10.3390/ani8010005
17. Kremer T. A New Web-Based Tool for RTO-Focused Animal Shelter Data Analysis. *Front Vet Sci.* 2021;8. doi: 10.3389/fvets.2021.669428
18. Davis L, Parker K. A Half-Century after 'Mister Rogers' Debut, 5 Facts about Neighbors in the U.S. Pew Research Center. August 15, 2019. Accessed June 18, 2024. <https://www.pewresearch.org/short-reads/2019/08/15/facts-about-neighbors-in-u-s/>