

A description of the clients (humans and animals) of Proud Paws, a “free” neutering programme in New Providence, The Bahamas

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Abstract

This paper describes the clients of Proud Paws, a “free” neutering programme in New Providence, The Bahamas. Results from a telephone survey of 265 clients of the programme indicated that the programme was successful in neutering the majority of the cats and dogs kept by these caregivers. However, the data suggest that these clients might have been taking advantage of the free service offered as many had a post-high school education. Caregivers of potcakes (the local mongrel) were more likely to use the programme than those who kept breed dogs, whose puppies have commercial value. No change in the welfare offered the pets could be found, although caregivers perceived that the health of their pets had increased after the surgery.

Introduction

The Bahamas has a long history of dogs being considered a nuisance. In a law of 1841 dogs were described as a “nuisance” and the reason was due to their number. Early attempts to control the population relied on requiring owners to license their dogs, while later attempts included capturing loose dogs (Fielding, Mather & Isaacs, 2005). When neutering as an accessible means by which caregivers could control the breeding of their pets does not seem to be recorded, but it probably became available in the 1960’s with the arrival of foreign veterinarians who set-up public clinics. However, as in other countries, neutering may have been performed earlier, but its occurrence would probably have been rare (Hartwell, 2004).

Since 1924 various animal welfare organizations, a government funded animal control unit and a shelter have been engaged in efforts to control the dog population. Despite these attempts to control the dog population it continues to be a nuisance to this day (Fielding, in press). The apparent failure of previous attempts to reduce the number of dogs on the streets is due to several causes. Of these, the most important are lack of confinement of kept dogs (Fielding, in press) and the ability of the kept dog population to produce a surplus of puppies beyond that required to replace dead dogs or meet the demand for dogs from new households acquiring dogs (Fielding & Plumridge, 2005). It is postulated that abandonment, both active and passive, from the kept dog population is the motor which maintains the unowned dog population on New Providence (Fielding, Mather & Isaacs, 2005).

It should be noted that neutering as a method of controlling pet populations is still controversial. Although neutering is strongly advocated by US based animal welfare groups (e.g.: Humane Society of the United States, nd a.), it is not without risk to the animal. Although animal welfare groups focus on the positive aspects of neutering and talk of “myths” surrounding the operation

(Humane Society of the United States, nd b.) However, this is a considerable body of literature describing the problems which can arise when animals are neutered and these should not be overlooked when advocating the procedure (Sanborn, 2007). Further, there is also evidence that neutering can change the behavior of animals (Maarschalkerweerd, Endenburg, Kirpensteijn and Knol DVM, 1997). In The Bahamian context, neutered dogs have a higher average age than intact dogs, which demonstrates a positive effect of neutering. Bahamian caregivers who believe that neutering a dog changes its personality are less likely to have their animals neutered, so these changes or perceived changes can have an important impact on the likelihood of animals being neutered (Fielding, Mather & Isaacs, 2005).

Low cost spay/neuter programmes have been considered to cause a distortion in the supply and demand for neuter operations and cause “a substitution effect: consumers would simply switch sources for the procedure [neuters] rather than raising the number of procedures”. While analysis of low-cost programme in the US has indicated that this does not happen there (Frank & Carlisle-Frank, 2006), no analysis appears to have yet been done in smaller communities to see if the findings hold elsewhere.

Notwithstanding the risks to the animals and behavioural changes or resistance by veterinarians, in common with other territories in the Caribbean, animal welfare organizations in The Bahamas have been closely associated with neutering programs in their attempts to reduce the number of roaming dogs on the streets (Fielding, 2004). However, the success of these programs is difficult to assess. Usually, there is no estimate of the size of the dog population or its age structure and so it is not possible to estimate the number of dogs which must be neutered. Despite the awareness of the importance of data collection in a neuter programme (Priority Ventures Group, 2005) this appears to be often overlooked and so hampering evaluation. The importance of research in all aspects of animal management has been appreciated as being important if interest groups are to be successful in theirs, rather than contribute the problems they purport to solve (Jennens, 1992).

In The Bahamas, we are aware of one anecdotal example of unsustained success of a free neuter programme. In relatively remote subdivision of Adelaide, in the southwest of New Providence an individual undertook to neuter all cats and dogs, and for many years it was reported that there was no “dog problem” there. When the person could no longer provide the free service, a “dog problem” resurfaced (Mather, J., personal communication 2007). What this story demonstrates, is that despite constant interaction between the animal welfare volunteer and the community, dog caregivers failed to accept the fact that they were responsible for controlling the breeding of their animals. It also suggests that providing a free neutering service may not, in the long-term be successful.

A small-scale study of a free neutering project on the Bahamian island of Abaco found that the project failed to encourage caregivers to assume the responsibility of neutering their next pet, as the majority of clients would continue to depend on the project to neuter future pets. This dependency appeared to be associated with the cost of the operation rather than unwillingness to neuter pets (Humane Society International, 2001). Consequently, the long-term impact of that project is likely to be minimal because when the funding ceases, it would appear that the number of neutered pets would start to rise.

A previous study in The Bahamas found that an appreciation that neutering should be used to reduce animal suffering did not necessarily result in caregivers getting their pets neutered (Table 1) (Fielding, unpublished data). As has been demonstrated in Taiwan, educational intervention does not necessarily result in more caregivers having their pets neutered (Weng, Kass, Chomel & Hart, 2006). These observations highlight the limitations of education. While education allows informed decisions to be made, it may not result in people making the wisest choice. This is most evident when it comes to peoples’ eating habits where people choose to eat unhealthy food (French, Story, Neumark-Sztainer, Fulkerson and Hannan, 2001). Consequently, accessibility to neutering services and education as to the benefits of neutering pets may still not be sufficient for people to get their pets neutered. This suggests that factors other than education may be preventing caregivers from neutering pets. For example: Bahamian pet caregivers tend to project their sexuality onto their pets and this combined with their concept of “maleness” can contribute to a reluctance for some people to get their pets neutered (Fielding, Samuels and Mather, 2002).

In addition to considerations of cost and attitudes which may discourage caregivers to have their pets neutered, is the fact that the breeding of pets is unregulated and an unknown number of people breed animals for sale. Newspapers advertise dogs on a daily basis and the most common source of dogs is from “pet shops” (Fielding, in press). However, there is only one pet shop listed in the Bahamian telephone directory (BTC, n.d.). This suggests that either caregivers buy their pets from backyard breeders or that backyard breeders supply the pet shop. Either way, caregivers create a demand for breeders to supply. Consequently, there will be a group of caregivers who will not be willing to have their pets neutered due to the financial benefits from selling puppies. Previous studies have indicated that while the local mongrel, the potcake, is the most common dog, pit bulls are also common (Fielding & Plumridge, 2005) and command a high price (Fielding, Mather & Isaacs, 2005)

The fact that dogs remain a nuisance throughout the island suggests that the success of previous neutering programmes (Fielding, Mather & Isaacs, 2005) is difficult to measure. Typically, numbers of animals neutered in programmes are used as a measure of “success” on the basis that neutering more animals is better than neutering less (ASPCA Blog, 2006) or that animals are neutered at no extra expense to the public (Neil & Constandy, 2006). Where shelter statistics are available, a decline in the number of animal relinquished to shelters has been used a proxy indicator for programme success (Best Friends Animal Society, 2005). However, the literature indicates that unless a high proportion of animals is neutered, the population will continue to produce an excess of puppies (Fielding & Plumridge, 2005, Alie *et al*, 2007). Consequently, unless the required proportion is reached, no decline in the population may be seen. It has also been estimated that it can take as long as 30 years for a neutering programme to have visible effects (Frank, 2007). It is apparent, that finding direct evidence that neutering programmes can be successful remains elusive. Further, as the anecdote and the study from Abaco above illustrate, neutering animals without educating caregivers on their responsibilities may not have a long-term impact on animal welfare. Previous authors have also suggested that neutering programmes alone will not reduce pet over-population (Poss and Everett, 2006).

If neutering programs are to form part of a larger program to limit the pet population, we need to address a number of questions. These include:

- (1) who should be the clients,
- (2) should the neutering operation be free,
- (3) what aspects of a neutering program are likely to be important to clients,
- (4) are there any aspects to which operators of a neutering program need to pay particular attention,
- (5) how does the programme avoid creating client dependency,
- (6) how do clients perceive the programme, and
- (7) do caregivers change the welfare offered pets as a result of using the programme?

In order to start to answer these questions a study was made of Proud Paws a “free” neutering program (one that did not require, but encouraged those who could, to contribute towards the cost of the surgery) in New Providence (Proud Paws, n.d.). This program is sponsored by several animal related business companies as well as civic groups and private individuals. It advertises its services in the media, on signs at busy traffic junctions and on a van which is used to collect animals. The programme collects animals, takes them to the clinic for the operation and return the animal afterwards. In addition, the animal is treated for any ailment, bathed and groomed before being returned. Although there is no cost to clients, they are encouraged to make a monetary or in-kind donation so that the program can continue. The program also takes the opportunity to interact with caregivers and to extend their knowledge of animal care practices with the objective of improving the level of care offered. In this regard, this neutering programme can be considered to follow current best practices; for example see Best Friends Animal Society (nd).

Method

A list of 609 persons who had participated in the programme using December 2004 and January 2006 was available. Not all records (24) included a telephone number and 38 numbers appeared more than once (indicating repeat clients), this resulted in a contact list of 547 numbers.

Students in a research methods class were trained via role-play to conduct telephone interviews, with the person who had arranged for the pet to be neutered, using a scripted survey form. Each number was called up to six times, at different times of day and different days of the week to ensure maximize the response rate. Interviewers made it clear that the study was being made on behalf of the neutering programme, participation was voluntary, and interviewees could withdraw at any time during the conversation. Information was gathered about the caregivers themselves, all their cats and dogs, and their views on the nature of the service provided by the neutering programme.

As this was a telephone survey the results relate to client reported perceptions of their own pet keeping ability and the pet’s health. It should be noted that the word “breed” is not used strictly. The Bahamas Kennel Club does not register many pure-breed dogs and it does not recognise pit bulls as breed (Fielding, Mather & Isaacs, 2005). While many dog keepers may claim that they have “breed” dogs, in many cases they may actually be mongrels, but to the uninformed would pass for a pure-bred dog. Where caregivers gave the dominant crosses of their dog, the dog last been listed as a mix of the first breed given by the caregiver.

Not all survey forms were completed, so the sample size is not always equal to the total number of interviews started.

Results

Two hundred and sixty-five clients participated in the study, a response rate of 48.5%. The primary reason for failure to contact clients was due to telephone numbers being faulty or wrong or the person having moved. Only seven people refused to participate.

Demographics of the respondents

Most of the clients were female (68.8% of 229 replies) and the modal age (60.2%) was 30-49 years of age. The majority of clients had completed high school (51.3% of 230 replies) 32.2% had completed college and 9.6% had a university/post-graduate/professional qualification, the remainder had a primary school or technical training. Only 9.1% (of 231) lived in households without a motor vehicle. Most households (56.1% of 228 replies) included children aged 10 years or under.

Client reactions towards the neutering programme

Most clients (60.8% of 265 replies) considered the service as “excellent” and only 9.1% as “satisfactory” or less. Only one respondent did not think that the programme was making a positive contribution to pet care and only three people definitely thought that the programme would not be effective at reducing the unwanted dog and cat population, whereas 187 (87% of 211 replies) thought that it would. Fourteen (or 5.4%) were dependent upon the programme for transporting pets to the clinic for neutering. Another 52 clients (20.1%) would not have used the programme had transportation not been provided, even though they had a motor vehicle. Most clients (88.0% of 259) said that they would recommend the programme to others. Two clients thought that the programme should provide follow-up services and one praised the programme because it was free.

When asked if they would get their next cat or dog neutered, 21 said they would not, 25 were unsure and 160 (77.7% of 206 replies) said that they would. One hundred and sixty-eight clients said that they would return to the programme to get their pet neutered, and of these 72.0% said that they would be able to pay the full cost of the operation. However, when clients first used the services of the programme only 37.8% (of 254 replies) made any monetary contribution for the service.

The single most common way by which respondents had heard about the neutering programme was by word of mouth (25.5% of 212 replies). Another 20.3% had found about the programme from road signs, whereas another 47.0% had heard/seen radio/newspaper advertisements. Most clients (91.5% of 258 replies) said that they would ask for the programme to neuter another pet. However, only 84.2% (of 259 replies) said that they would use the programme to neuter another pet if the service was not free.

Changes in pet care due to the programme

Of those who had not taken their pets to a veterinarian prior to the operation 92.6% (of 54) had also not taken them back to a veterinarian since the operation. In the case of clients who had taken their pets to a veterinarian prior to the operation 36.5% (of 126) had not since taken them back to a veterinarian. The majority of clients (74.3% of 210) thought that the services provided by the programme had made them a “more responsible pet owner”. Reasons as to why this were themed and the most commonly reported reason related to giving the pet more attention (20 replies) and increased knowledge of animal care (10 replies) (Table 2).

Table 2 about here

When clients reported that their interaction with the programme had not made them more responsible this was because they felt that they had always been responsible. However, when we use yearly visits to a veterinarian as an indicator of responsibility, there is little to choose between the actions of those who did and not feel that their interaction with the programme made them more responsible (Table 3).

Table 3 about here

A description of the cats and dogs kept by clients

Clients provided information on 74 cats and 479 dogs. While there were almost equal numbers of male and female dogs (49.8% of 476 dogs), there were slightly more male than female cats (54.1% of 74 cats). The mean age of 55 cats was 3.3 years (Se: 0.43) and that of 365 dogs was 3.2 years (Se: 0.12). Most of the cats (68.2% of 74) were kept inside, while most of the dogs (86.2% of 462) were kept outside, and some of these (8.0%) usually had access to the street. Of the 356 dogs neutered by the programme and for which breeds were given, the potcake was the most common type (Table 4). In the case of cats, the tabby was the most common (Table 5).

Table 4 about here

Table 5 about here

A similar percentage of female cats and dogs kept by clients had bred, Table 6.

Table 6 about here

While the programme had neutered many female dogs which had never bred (56.9%, of 218 animals), another 26.7% were prevented from breeding again (Table 7). Of the intact pets whose ages were reported, nine were less than one year old, and five six months of less. Not all pets kept by clients were neutered, but the majority of the neutered pets had been neutered through the free neuter programme (Table 8).

Table 7 about here

Table 8 about here.

Clients provided self reports on the health of their pets. The majority of cats and dogs were reported to be in excellent health. All the cats were reported to have good or excellent health and less than five percent of the dogs were reported as having not good or poor health. Clients reported that they thought that the health of their pets had improved since the pet have been neutered. The health of less than 10% of the cats and dogs, which were neutered by the programme, was reported as having deteriorated since the operation (Table 9).

Table 9 about here

Fate of neutered pets which caregivers no longer had after being neutered

Fifty-two clients had had 55 pets neutered which they no longer had in their care at the time of this study. Four of these pets were cats and the remainder were dogs. Half of the cats were males as were 47.1% of the dogs. The mean age of the cats was 4.3 years (Se: 2.14) and for the dogs 2.60 years (Se: 0.42). The most common reason for not longer having the pet was because it had died. In the case of cats, three of the four had died and one had run away; in the case of 51 dogs, 45 (88.3%) had died, three (5.9%) had been stolen, one had run away, one was living elsewhere and one had been surrendered to the local shelter. Overall, car accidents were the single biggest killer of pets, but 12 (or 24%) dogs were reported as being poisoned, Table 10.

Table 10 about here

Disposal of 48 dead pets was reported. Dead pets were typically buried (27 dogs and 2 cats). However, 11 dogs and 1 cat were put into dumpsters. Only one dog was removed by the Department of Environmental Health, the authority responsible for the removal of dead animals. The remaining animals were left with an animal welfare group (4) or burnt (2).

Discussion

Human clients of the program

Overall, the human clients were pleased with the services offered by the programme, and almost all thought that the programme would have a positive contribution to pet care and reduce the pet over-population problem. These perceptions are important as it is generally agreed that The Bahamas suffers from a “stray dog problem” (Fielding, Mather & Isaacs, 2005). The fact that many clients said that they would be repeat customers also indicates their satisfaction with the programme. Most said they would recommend the programme to others. Given the importance of word-of-mouth in advertising the programme, this response is important. It should be noted that even the signs placed in public places were useful in advertising the programme. Clearly, advertising the programme is the first step in getting caregivers to utilize the programme, and awareness of the programme is crucial in reaching out to all caregivers.

The educational profile of the human clients indicated that 51.3% had completed high school and 41.8% had a tertiary education. This contrasts with the educational profile in the 2000 census (Department of Statistics, 2001), which reported 71.9% had a high school education and 17.8% had a tertiary education. Census data show that the more education people have the greater their income. This finding suggests that the programme has had greater success at contacting clients who have more education than in the general population. This result is in keeping with the fact

that less-educated people are more likely than more-educated people to think that dogs should never be neutered (Fielding, 2007) and so they can be expected to be less willing to contact any neuter programme.

While the programme may have only interacted with a limited cross-section of pet caregivers, it is clear that it had deep penetration within these pet keeping homes as most of the pets within these homes had been neutered through the programme. Incentives, such as an appreciable differential in the dog license fee for neutered and intact animals might encourage greater participation in the programme (Fielding, Mather & Isaacs, 2005).

The fact that relatively few people made any monetary contribution for the services could mean that many people who should be able to pay or contribute towards to the programme are taking advantage of it. Responses with regard to getting future pets neutered suggest that many clients would use the programme because it is free, despite saying that they would be able to afford the cost of the operation. These responses are similar to those found in Abaco (Humane Society International, 2001). Again, they indicate that in the short-term, at least, caregivers are unwilling to assume the full cost of pet care.

The pick-up/drop-off service provided by the programme appears to be important, irrespective of whether or not clients have their own motor vehicle. Anecdotally, we know of caregivers transporting dogs in the boot of their car as the dog was considered too dirty to travel in the car’s interior. Reasons such as this, as well as unwillingness to invest time in the care of the pet may underlie these responses.

Overall, there was little change in the care given pets as a result of the clients’ interaction with the programme. This observation was at variance with the self-reported feeling that using the programme had made caregivers more responsible. Of interest was the observation that many thought that they were responsible caregivers prior to having their pet neutered by the programme. Self-reported views of the care offered pets indicate that many Bahamian pet keepers have a high opinion of the welfare they offer their pets (Fielding, in press), but these opinions do not always stand informed scrutiny (Fielding, Mather & Isaacs, 2005).

Self-reported views of the health of pets need to be treated with caution as caregivers may lack the relevant knowledge to know the state of the animal’s health (Fielding, Mather & Isaacs, 2005). However, the perception of the animal’s health is important as it can be expected to influence the client’s response to the programme. Negative impressions of animal health may be linked, with or without cause, to the operation and so damage the reputation of the programme, so, the positive perception of improved health since the operation is important.

Non-human clients of the programme

Potcakes were the most common neutered pet by the programme. The mix of types of dogs neutered by the programme was different to that seen in the general dog population (Fielding & Plumridge, 2005). The range of breeds reported is limited compared to Fielding and Plumridge’s and the percentage of potcakes is higher (they reported only 29.7%). This may mean that while the programme was successful in neutering potcakes, caregivers of breed dogs were reluctant to

get their pets neutered because of the financial benefits of breeding. However, uncontrolled backyard breeding can result in dogs with poor temperament or with behavioural problems being sold; ultimately these dogs may be abandoned (Weng, Kass, Hart, & Chomel, 2006). Personal observation confirms that pit bulls and other valuable dogs do get abandoned. Until backyard breeding is regulated, neuter programmes can expect to be unsuccessful in encouraging many keepers who can earn money from the sale of puppies to have their dogs neutered.

The age of the dogs and the fact that many were kept outside and some able to roam on the street are in common with previous studies (e.g.: Fielding, Mather & Isaacs, 2005). It should be noted that most of the caregivers thought that there is nothing wrong in keeping dogs outside as they thought themselves to be excellent caregivers. However, it has been shown that dogs kept inside the home have a higher average age than those which are kept outside or allow to roam (Fielding & Plumridge, 2005).

About 10% of the animal neutered by the programme in about one year had died. This provides an estimate of the “wastage”, or loss of neutered pets from one year to the next. This is important to allow for estimating the cumulative number of living pets neutered during the life of neuter programme. The fact that many pets had been killed by motor vehicles reflects the lack of confinement reported in other studies (Fielding, Mather & Isaacs, 2005). Further, it indicates that even after interaction with the programme caregivers still allowed their pets (unsupervised?) access to the road. The death of many pets by poison illustrates the deliberate destruction of animals which probably results when animals are viewed as a nuisance (Fielding, in press). Both these types of death represent a waste of programme resources.

Only one pet of the 55 no longer in the caregiver’s possession had been surrendered and only one had been given away. In other studies, different responses were obtained when caregivers stated how they intended to dispose of unwanted pets (Fielding, 2007). Much higher rates of unwanted pets have been reported (Fielding, in press) than seen in this study. At present, we cannot offer any definite explanation for these discrepancies. The absence of a Bahamian study on pet relinquishment requires research on the factors associated with caregivers giving up their pets before any useful interpretation can be given.

It will be useful to repeat this review of the programme in the future and assess the longer-term impact of the programme. Such an assessment would allow for a better examination of any programme dependency and how caregivers have changed their pet care practices.

Conclusions

If it agreed that “free” spay neuter programmes should target the most needy within society, this study highlights the some of the difficulties of reaching this group, particularly when this group is unlikely to contact the programme voluntarily. The data suggest that once the programme has made contact with a household it is relatively easy to neuter most of the pets.

The need for the programme to offer its services with charge cannot be easily answered. While many people indicated that cost was not an issue, the fact that others seem to depend on the programme for future surgeries suggests that either households genuinely cannot afford the cost of the surgery or they are unwilling to assume the full cost of pet care.

The pick-up/drop-off service may be more important than the freeness of the surgery. It would be useful to observe the use of a programme if the transport service was offered without charge with a charge for the surgery.

The data suggest that the perceived increase in health care of the animals after the operation is probably important in giving caregivers a good impression of the programme. With word-of-mouth being the single largest way by which clients learnt about the programme, these perceptions are important.

Within the time-frame in which this study was done, there were no clear changes by caregivers to the welfare offered pets. This lack of change suggests that the interaction of the caregivers with the programme was insufficient to produce measurable changes in the welfare offered the pets. This was probably due the caregivers having a high opinion of the level of care they offered prior to interacting with the programme. If this is the case, it may be an impediment to getting caregivers to alter the way they care for their pets. Ultimately, unless a neutering programme results in people assuming the responsibility of getting their pets neutered without outside help, then the long-term benefits of the programme may be limited to creating programme dependency.

Limitations

The response rate was higher than that reported in another telephone survey on dogs in The Bahamas (Fielding & Samuels, 2002) and may be due to interviewees being particularly interested in being about to comment about the service of the neutering program. However, bias in the study cannot be ruled out as there is the possibility that clients in poorer areas are more difficult to contact via telephone due to numbers not being in service (Fielding & Samuels, 2002). The fact that the respondent group had a similar percentage of households with motor vehicles as in “The Bahamas Conditions of Living Survey” (Department of Statistics, 2004) suggests that bias may be present as a free neutering programme typically targets the poorest caregivers in the community and so we might have expected to find a greater percentage of poorer people in the group not owning motor vehicles in the study than nationally, if the programme had been successfully targeted poorer households.

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Table 1: Association between attitudes towards use of neutering to control the suffering of animals and having pets neutered in New Providence, The Bahamas. (Percentages within caregivers’ response to use of neutering.)

	Only keeping:	Is your pet neutered?		Total
		Yes	No	
Neutering should be done to stop the overpopulation and suffering of animals:	Cats			
	Yes	51.0%	49.0%	49
	No	41.7%	58.3%	12
	Dogs			
	Yes	53.9%	46.1%	204
	No	23.8%	76.2%	63

Fielding, unpublished data 2006.

Table 2: Themed reasons given by caregivers who said that interaction with the programme had resulted in them being a better caregiver.

Reason being a better caregiver	Frequency
More attention	20
Increased knowledge	10
Good health	5
More respect	4
Neutered pets	4
Avoid mating	2
Easier to handle	2
No more puppies	2
Did what pet needed	1
Dog longer strays	1
Total	51

Table 3: Percentage of human clients, classified by feeling that they were more responsible pet owners as a result of using the neutering programme, by having taken their pets to a veterinarian prior to and after having them neutered.

			Have taken the pet to a veterinarian since having it neutered?		N	
			No	Yes		
Did the services provided by the programme make you a more responsible pet owner?	No	Took the pet to a veterinarian prior to having it neutered?	No	100%	0.0%	13
			Yes	33.3%	66.7%	30
	Yes	to having it neutered?	No	90.2%	9.8%	41
			Yes	37.5%	62.5%	96

Table 4: Percentage of dogs classified by breed/type neutered by the programme.

Type	Percentage	Mix
Potcake	51.7%	
Pit bull	11.5%	7.0%
Chow chow	4.5%	2.2%
Doberman pinscher	3.7%	
German shepherd	2.8%	2.0%
Golden retriever	2.5%	0.3%
Rottweiler	2.0%	1.7%
Shih Tzu	1.4%	0.8%
Bull dog	0.8%	
Chihuahua	0.8%	
Cocker spaniel	0.6%	
Sheep dog	0.6%	
Japanese akita	0.3%	
Labrador	0.3%	0.6%
Schnauzer	0.3%	
Serbian husky	0.3%	
Terrier	0.3%	
Mixed wolf (hound)	0.0%	1.1%
N=356		

Table 5: Percentage of cats classified by breed/type neutered by the programme.

Type	Percentage
Tabby	68.0%
Persian	16.0%
Abyssinian	8.0%
American bobtail	4.0%
Domestic cat	4.0%
N=25	

Table 6: Percentage of female pets breeding

Bred	Cat	Dog
No	59.4%	63.4%
Yes	28.1%	27.6%
Do not know	12.5%	9.1%
N	32	232

Table 7: Breeding activity of 218 female dogs (Percentages of 218 dogs).

All female dogs kept by clients		Currently neutered		
		Neutered by the programme	No	Yes
Had a litter?	Do not know	No	0	0
		Yes	-	8.3%
	No	No	3.2%	3.7%
		Yes	-	56.9%
	Yes	No	1.4%	0.5%
		Yes	-	26.2%
Totals			10	208

Table 8: Percentage of client pets neutered, and of these, the percentage neutered through the programme.

Pet type	Sex	% of pets neutered	%of neutered pets neutered through the programme
Cat	Female	93.8%	86.7%
	N	32	
	Male	84.2%	93.8%
	N	34	
Dog	Female	95.9%	96.7%
	N	230	
	Male	94.4%	97.3%
	N	224	

Table 9: Reported current state of pet health by change in health since pet was neutered by the programme. (Percentages with pet type.)

		Has the health of the animal improved since it was neutered by proud paws?				
		Current state of health	No	About the same	Yes	Overall
Cat N=56	Excellent		7.1%	10.7%	57.1%	75.0%
	Good		0.0%	5.4%	19.6%	25.0%
	Not good					
	Poor					
	Overall		7.1%	16.1%	76.8%	100.0%
Dog N=409	Excellent		2.0%	17.8%	31.1%	50.9%
	Good		3.4%	14.2%	27.4%	45.0%
	Not good		0.2%	1.5%	0.5%	2.2%
	Poor		0.7%	0.0%	1.2%	2.0%
	Overall		6.4%	33.5%	60.1%	100.0%

Table 10: Causes of death of 48 neutered pets

Reported cause of death	Dogs	Cats
Motor vehicle accident	11	2
Suspected poisoning	12	
Disease, unspecified	7	
Canine distemper	3	
Arthritis	1	
Old age	1	
Put to sleep	1	
Dog fight		1
Unknown causes	9	