

**Examining potential impacts of Capacity for Care (C4C) as a strategy  
to manage shelter cat populations**

**by**

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## **ABSTRACT**

Examining potential impacts of Capacity for Care (C4C) as a strategy to manage shelter cat populations

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Capacity for Care (C4C) is a management strategy designed to address feline welfare issues in animal shelters and provides solutions for efficiently managing shelter populations. Managed shelter intake, as recommended by C4C, is an effective method to control shelter populations. The goal of this research was to determine the impact of waitlists and strategies to divert intake, on cats whose owners were seeking to relinquish them. To address these goals, one quantitative and one qualitative study were conducted. Findings suggest that managed intake resulted in 31% of cats being retained or rehomed without shelter assistance, but follow-up information about these outcomes was limited. Shelter workers perceived gaining support from staff, and understanding from the public, to be major challenges after implementing C4C. Further research is needed to understand potential impacts of C4C on the welfare of cats in the community who are waiting to be admitted to a shelter.

## **DEDICATION**

To my parents and Michael Fielding. I am extremely grateful for you all.

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## **LIST OF ABBREVIATIONS**

C4C: Capacity for Care

LOS: Length of stay

GHS: Guelph Humane Society

URI: Upper respiratory infection

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# 1 Literature Review

## 1.1 Introduction

High population densities of companion animals in shelters are a common cause of stress, illness and euthanasia for sheltered companion animals (Turner and Kelsner, 1999; Gourkow and Fraser, 2006; Tanaka, Wagner, Kass, & Hurley, 2012; Wagner, Kass & Hurley, 2017). Capacity for Care (C4C) has been suggested as a management strategy to address welfare issues and to provide solutions to manage the high demand for the intake of cats into these organizations (Kasten n.d.; Karsten, Wagner, Kass, & Hurley, 2017). There is evidence to suggest that C4C is an effective strategy to improve feline welfare in shelter by improving husbandry, optimizing adoptions, decreasing the prevalence of illness and increasing live outcomes for cats (Karsten *et al* 2017; Janke, Berke, Flockhart, Bateman, & Coe, 2017; Humane Canada 2018). Existing research has been focused on the effects of C4C on shelter cat populations and has not explored any effects of C4C that may impact the community beyond the shelter.

Shelter management practices influence the wellbeing of the animals in both the shelter facility and in the community. The intention of C4C is to improve conditions for animals in shelter facilities, and yet it is important to understand how shelter practices impact on the welfare of the whole companion animal community including animals in shelters, owned animals and free roaming animals. Therefore, understanding the impact of C4C on the broader community is needed to understand how any specific strategy will affect the wellbeing of cats and their owners in the community.

## 1.2 Quantifying and Managing Cat Overpopulation

Pet overpopulation is a long-standing global issue that has been the focus of animal welfare advocates and researchers for several decades. Although solutions are broad and highly variable amongst populations (Kay, Coe, Young, & Pearl, 2017), the issue of overpopulation has a large impact on animal shelters that aim to improve the welfare of all animals in their care (Karsten *et al.*, 2017; Crawford, Fountaine, & Calver, 2017; Gouveia, Magalhaes, & de Sousa, 2011; Wagner *et al.*, 2018; Wenstrup and Dowidchuk, 1999; Zawistowski, Morris, Salman, & Rush-Gallie, 2014). Humane Canada estimates that animal shelters across Canada take in hundreds of thousands of animals per year, and that the magnitude of overpopulation will worsen with time if it is not effectively addressed (Humane Canada, 2012). It has been reported that the number of homeless cats admitted to Canadian shelters is twice that of dogs, overwhelming shelters who do not have the capacity to accommodate large numbers (Humane Canada, 2012).

Humane Canada used a national online survey to obtain information about cat populations in Canada from the public and various stakeholders in order to evaluate perceptions of overpopulation and solutions to this issue (Humane Canada, 2017). Municipalities, humane societies, SPCAs, veterinarians, rescues and trap-neuter groups were included as stakeholders. From this research it was estimated that there were 77,961 cats awaiting a home in the shelter system during 2011 alone. This is a conservative estimate, assumed to be a severe underestimation of the homeless population of cats in Canada due to the extrapolation of data from only a portion of

Canadian shelters, and does not account for the number of homeless cats who are not being admitted to these facilities. Based on the extrapolation of data from the 2011 study, Humane Canada estimates that, in reality, there were over 600,000 cats in shelters across the country during the year of 2011 (Humane Canada, 2012). The Cats in Canada 2017 report (Humane Canada 2017) provided an update on the homeless sheltered cat population using the same methodology from the 2012 study. Their extrapolation of the data suggested that there was a substantial reduction in this population with approximately 261,000 sheltered cats across Canada in 2017. This could potentially be due to a shift in how shelters address the high demand of intake, or due to increased awareness of the negative impact of dense shelter populations.

This earlier study further questioned what solutions to the overpopulation issue were most appropriate and surveyed stakeholders to assess how current solutions are perceived by these groups (Humane Canada, 2012). All stakeholders who were included in the earlier study perceived adoption to be the best approach to address overpopulation (Humane Canada, 2012). Euthanasia, animal control and education were additional options agreed upon by stakeholders, although these options were not valued the same among all participating organizations. Euthanasia is a controversial solution that has been applied to cats in shelters and free roaming populations (Crawford, *et al.*, 2017; Reeve, Rogelberg, Spitzmuller, & Digiacomo, 2005; Rogelberg *et al.*, 2007a). Some shelters implement “time up” policies, in which animals are given a fixed amount of time to be rehomed before being euthanized. Euthanasia is also used to reduce populations of feral or stray cats in areas where by-laws prohibit free roaming

cats, cats are considered a nuisance or are otherwise overpopulated. Despite the moral implications of euthanasia to address overpopulation, the efficacy of euthanasia is still debated among researchers with evidence suggesting that it is ineffective for long term population control and detrimental to animal care workers (Dinnage, Scarlett, & Richards, 2009; Gunther, Raz, Berke, & Klement, 2015; Lazenby, Mooney, & Dickman, 2014; Rogelberg *et al.*, 2007b). Rogelberg *et al.* (2007b) used a cross-sectional study to examine how euthanasia rates and practices affected employees who were involved in euthanasia, analysing surveys from 36 shelters across the United States. This study found that employee turnover was positively correlated with the euthanasia rate in this study population. Euthanasia decisions for reasons other than behaviour or health issues contributed to a high turnover, demonstrating the negative response of shelter workers to euthanasia for reasons such as animal age, breed and for population management (Rogelberg *et al.*, 2017).

Ensuring positive outcomes for all cats admitted to shelters and rescues is a daunting task, which some animal management workers have labelled impossible (Rand *et al.* 2018). Positive outcomes are live outcomes that include adoption, transfer to another facility or trap-neuter-release programs. Historically cat shelter data has often been compared to dog data. As such, many comparisons have suggested that, historically, more effort has been made to reduce canine euthanasia in shelters. Marked improvements in outcomes for both species have been noted, although recently the statistics reported for cats appear to show a greater improvement when compared with dogs (Humane Canada, 2018). This is likely due to the higher rates and total number of

cats euthanized compared to dogs, which has left more room to improve outcomes and a greater focus on cats with programs such as C4C. Overpopulation is a major cause of euthanasia as it is used as a common method to control populations of domestic animals. Lethal methods are used to control unowned, outdoor cats as well as adoptable cats who could otherwise be placed in a home when shelters become overwhelmed by larger numbers of cats and their intake surpasses the number of cats they are adopting. Lethal control methods are controversial due to moral and ethical considerations, the impact on shelter works, and due to questions about efficacy (Levy, Isaza, & Scott, 2014; Reeve *et al.*, 2005; Rogelberg *et al.*, 2007b; Wald, Jacobson, & Levy, 2013). When a cat is removed from an area, a territory is left unoccupied and it is likely that this territory will be filled by another individual by what has been called the vacuum effect (Gibson *et al.* 2002, Longcore *et al.* 2009). If cats continue to reproduce there is endless supply of individuals to fill areas as cats are removed, regardless of the method used to remove them.

Trap-neuter-release is an alternate method of population control which aims to reduce overpopulation by limiting the ability of free-roaming cat populations to reproduce. Trap-neuter-release type programs are generally favoured by animal welfare organizations for their ability to provide live outcomes to cats who would be otherwise euthanized (Gibson, Keizer, & Golding, 2002). Trap-neuter-release programs may reduce the shelter population in need of rehoming, therefore reducing the risk of euthanasia as a result of shelter overpopulation (Gibson *et al.*, 2002; Zito, Aguilar, Vigeant, & Dale, 2017). There are various studies on the impact of trap-neuter-release

programs, yet there is no consistent agreement among various researchers on the efficacy of these programs and existing data can be interpreted in a variety of ways (Levy, Isaza, & Scott, 2014; Longcore, Rich, & Sullivan, 2009; Slater, 2004; Spehar & Wolf, 2017; Wald, Jacobson, & Levy, 2013). Additionally, groups who are interested in wildlife conservation argue that trap-neuter-release may come at an environmental cost which has not been heavily studied or researched in any field. It has been suggested that predation on birds and small mammals by free roaming cats has a large impact on populations of native wildlife (Longcore, Rich, & Sullivan, 2009). Longcore, Rich, & Sullivan (2009) aimed to critically evaluate claims regarding trap-neuter-release programs and suggested that more research is needed to evaluate these programs holistically, taking both animal welfare and environmental conservation into account.

Feral cats benefit from live release after being neutered compared with the alternative of being euthanized due to their unsuitability for a home environment. The primary benefit to the welfare of feral cats is the ability for them to have a live outcome, yet this population can also benefit from veterinary care provided along with the spay/neuter procedure (Gibson *et al.*, 2002; Zito, Aguilar, Vigeant, & Dale, 2018). In addition to “trap”, “neuter” and “release”, “maintain” has been added to some programs that aim to ensure that the cats are being provisioned with food and shelter. Ultimately, trap-neuter-return-maintain approaches greatly improve the welfare of the domestic cat population because released cats continue to receive food and shelter support after their release (Zito *et al.*, 2018). Zito *et al.* (2018) examined the impact of a targeted trap-neuter-release program on community cat euthanasia in a suburban Australia

community. The program lasted 14 months, providing spay/neutering services to 348 cats. Researchers observed a 39% decrease in euthanasia for adult cats and 47% decrease in euthanasia for all under socialized cats, juveniles and adults when comparing the TNR targeted area with the non-targeted area. The reduction in euthanasia for all groups entering the study shelter was significantly greater than the control shelter. A limitation of this study is that the researchers did not consider the impact of the TNR program on the wellbeing and quality of life of the released, free-roaming population. Further, potential impacts on the environment were not considered or compared between areas in which the TNR programs were occurring and other areas. Several studies on the efficacy of trap-neuter-release recommend combining the method with adoption of social cats to maximize the impact on reducing the free-roaming, unowned cat population (Zito *et al.*, 2018; Levy *et al.*, 2014; Spehar and Wolfe, 2017).

Overcrowding and lack of adequate housing in a shelter has been shown to compromise the welfare of the animals in the shelters' care (Turner and Kelsner, 1999; Gourkow and Fraser, 2006; Tanka *et al.*, 2012; Wagner *et al.*, 2017). There are many benefits that arise when shelter populations are managed effectively, that ultimately result in improved shelter performance as measured by quality of care and live outcomes. Somewhat counterintuitively, having a smaller number of cats available in an adoption room is thought to increase the chance of adoption for those given cats (Humane Canada, 2018). It is theorized that this occurs because a larger number of options is overwhelming for adopters and can lead to decision paralysis (Janke *et al.*,

2017). In addition, limiting the number of cats available for adoption also improves the likelihood that a cat will be adopted by decreasing stress and promoting natural cat behaviour that is sought out by adopters (Gourkow and Fraser, 2006). Maintaining an appropriate population further helps limit the incidence of illness, which puts cats at risk of death and euthanasia due to disease (Humane Canada, 2016; Dinnage *et al.*, 2009). Illness and increased length of stay (LOS) in a shelter have both been shown to lower the likelihood of adoption, because the risk of illness increases with a longer LOS (Dinnage *et al.*, 2009; Karsten *et al.*, 2017). For example, Dinnage *et al.* (2009) found that the probability of developing an upper respiratory infection increased with an increase in LOS. Upper respiratory disease, among other diseases, and lack of space to accommodate cats are often reported as primary reasons for euthanasia in shelters that are not sufficiently resourced to effectively treat large numbers of cats with illness concurrently (Dinnage *et al.*, 2009; Bannasch & Foley, 2004). For shelters that have the resources to invest in aiding recovery from infection, a cat may be placed in an isolation ward or in foster care until they recover. Recovery time increases their LOS and can cause the shelter population to grow quickly if there is a large outbreak, or cats are slow to recover. This is a snowball effect, where it is not uncommon for welfare to be compromised as shelters struggle to manage the resulting large number of cats in their facilities.

Fortunately, research on pet overpopulation and tools that may improve outcomes from shelters is becoming more commonplace (Kay *et al.*, 2017). Several publications focus primarily on animal shelters and how they can improve welfare and

positive outcomes for sheltered cats (Finka, Ellis, & Stavisky, 2014; Gourkow & Fraser, 2006; Gourkow & Phillips, 2016; Kessler & Turner, 1998; Kry & Casey, 2007; Loberg & Lundmark, 2016; Stella & Croney, 2016; Vinke, Godijn, & van der Leij, 2014; Zito *et al.*, 2015). Capacity for Care (C4C) is a more recent shelter management strategy in which the cat population is maintained at or below a predetermined capacity unique to each facility, in order to improve the quality of care provided to animals during their time at the shelter (Karsten *et al.*, 2017; Humane Canada, 2018 ). As a newer shelter management strategy, C4C has been examined by a limited number of studies that have focused specifically on the animal welfare benefits that can be obtained within a shelter facility. The stated primary goal of C4C is to improve welfare of animals while in the shelter (Humane Canada, 2018), which is expected to result in a decrease in LOS and increase the number of live outcomes for cats. C4C is comprised of a set of tools that can be implemented in individual shelters with the aim of improving housing for cats and promoting adoptions (Karsten, n.d.).

C4C has the potential to drastically change how shelters address rehoming and managing cat population for the communities they serve (Longcore, Rich, & Sullivan, 2009; Slater, 2004; Spehar & Wolf, 2017; Zito *et al.*, 2015). The research undertaken as a part of this thesis is aimed at contributing to closing a gap in the current literature by focusing on the impact of managed intake, a key element of C4C, on the owned population of cats whose owners are considering relinquishment to a shelter. Managed intake is expected to allow shelters to meet the conditions necessary to increase live outcomes for cats and to provide higher quality care to animals (Humane Canada,

2018; Karsten *et al.*, 2017). Due to the overwhelming negative impacts of euthanasia on shelter animals and their caregivers (Rand, Lancaster, Inwood, Cluderay, & Marston, 2018; Reeve *et al.*, 2005; Rogelberg *et al.*, 2007b), it is important for shelters to focus on methods of reducing euthanasia and other factors that contribute to reduced welfare such as dense in-shelter populations and low quality housing (Humane Canada, 2017; Karsten, n.d.; Rand *et al.*, 2018). In addition to the positive impact on sheltered cats, understanding the impact of managed intake on the broader cat community is crucial for assessing the true effectiveness of the C4C shelter-management model, because managed intake often results in deferred relinquishment; outcomes for deferred cats have not been studied. In order to measure the total impact that C4C has on cat welfare, it is essential to learn how managed intake affects outcomes for cats whose admission to a shelter is deferred. Although there is evidence of significant improvements for many shelter outcome measures, the potential impact of managed intake should be studied in order to understand how cat communities are affected by this strategy (Humane Canada, 2018; Karsten, n.d.; Karsten *et al.*, 2017).

### 1.3 Evaluating Capacity for Care as a Management Strategy

The C4C model addresses all shelter practices including: intake; improved shelter housing to optimize welfare and minimize the risk of disease transmission; alternative housing, such as foster homes; enrichment; and adoption protocols (Karsten *et al.*, 2017; Humane Canada 2018). Currently, there is limited evidence to inform shelter designs for strategies of optimizing live outcomes and addressing the large demand of intake for cats. There are, however, anecdotal observations and expertise from people in the field that can be used to begin to inform decisions that may be tested for efficacy in the shelter setting, which is the case with C4C. There are few publications that address the benefits of C4C specifically, and of these the findings are unanimous in favour of the welfare improvement that can be observed after its implementation. The first study on the impact of C4C was published in 2017 by Karsten *et al.* (2017). This study analyzed the effect of C4C on three pilot shelters, comparing LOS and outcome for cats pre- and post-implementation of C4C. Although anonymized, the three pilot shelters that were included in this study were also included in a case report published by Humane Canada in 2018, along with anecdotal evidence to support C4C. It is one of only three research studies that examines the effects of C4C on shelter cat populations after implementation along with two studies by Janke *et al.* (2017), one which examines the effect that C4C has on shelter intake and a second that examines risk factors for LOS.

Karsten *et al.* (2017) analysed LOS and outcomes for cats in three non-profit shelters with open admissions before and after the implementation of select aspects of

C4C at the shelters. Data was included from August 1, 2012 to August 31, 2016, providing records for 17,634 cats among the participating shelters. The association between implementation of C4C and the probabilities of adoption and euthanasia were analysed by logistic regression. A Cox proportional hazards regression model was used to analyse the association between pre- and post-implementation of C4C and adoption, to account for unequal follow up of cats over the study period. The results of this study support that C4C was an effective management strategy for increasing the number of adoptions as a positive outcome for cats and decreasing overall LOS in the study shelters.

All three shelters that participated in the study showed a significant decrease in overall LOS, decrease in euthanasia as an outcome, and an increase in adoptions post-implementation of C4C compared to pre-implementation (Karsten *et al.*, 2017). The authors reported that data was provided from shelters at least two years prior to the implementation of C4C, and for one to two years post-implementation. It is unclear if the researchers exempted euthanasia due to an existing cause that was present upon admission to the shelter, or if the euthanasia count was a total count regardless of whether the onset of the cause occurred after admission. Understanding how euthanasia data was handled is important because euthanasia could be overestimated if the count included cats who were severely injured or irrecoverably ill when they were admitted to the shelter. For calculating hazard ratios in the analysis of adoption pre- and post-implementation, cats who were available for adoption but who were euthanized or died in the shelter's care were censored from the analysis. There was no report of how

many records were censored for this analysis, which may have shown useful findings in regard to the number of adoptable cats who died in the shelter if the cause of death was induced by the shelter environment. In addition to disease exposure, inappetence and severe stress can also contribute to shelter mortality (Tanaka, Wagner, Kass, & Hurley, 2012). Overall, this study provides initial evidence that euthanasia can be reduced by implementing aspects of C4C, however more information about how it influences euthanasia would be useful to provide further insight into how C4C contributes to this reduction. For example, are the reasons for euthanasia or the proportion of cats euthanized for certain reasons changing after implementing C4C. For this reason, shelters maintaining accurate records of health status upon entry is essential for making accurate estimates about cat populations. Future research in this area would benefit from reporting more details on how euthanasia was handled during analyses.

C4C supports an organized system that identifies healthy animals and efficiently moves them through the system to be adopted (Humane Canada, 2018). It should be noted that cats can also be “fast tracked” to adoption, which means that they bypass the intake area and are moved directly into the adoption area (Humane Canada, 2018; Karsten, 2015). For example, stray cats who have a mandatory holding period can be made available for adoption in order to find a home before they are even cleared to leave, thus minimizing their LOS (Humane Canada, 2018; Karsten, n.d.). Keeping up with initial health exams also allows for cats to be fast tracked to the adoption room before their holding period is up, giving them an opportunity to be selected by an adopter as soon as possible. In addition, making sure adoptable cats receive medical

treatments in a timely manner and simplifying the adoption process are major suggestions for increasing adoptions relative to intake (Humane Canada, 2018; Karsten, 2015).

It is important to consider how individual shelters manage their intake to account for biases in outcomes and LOS that may be caused if a shelter takes on a large number of medical cases. Additionally, variations in adoption protocols, such as implementing a working cat program, would also reduce euthanasia for feral cats that would otherwise have been euthanized in shelters who implement these programs. The working cat programs place feral or semi-feral cats, who would not be suitable for a traditional home, in a barn or warehouse as an alternative to a traditional home. This allows the cats to have a caregiver who provides consistent food, water and access to shelter. Another study, by Murray *et al.* (2008), obtained retrospective data from 23 shelters in the United Kingdom to examine risk factors for death in an adoption center. This study used a case control design to compare characteristics of cats who were euthanized or died in shelter, to those who did not. Age, neuter status, ownership background, LOS, and overall health condition were compared between cases and controls. The authors reported causes of natural death and reasons for euthanasia by infectious disease, non-infectious disease and miscellaneous, which included unknown causes, kitten death shortly after birth, and traumatic injuries. The authors reported that infectious diseases were responsible for approximately 39% of all deaths in the study population. Cats with special medical needs, cats over 7 years of age, and kittens younger than 7 weeks, had a greater risk of mortality compared with cats who had no

medical needs between those ages. The chosen method of reporting the reasons for death and the proportion of cats who died or were euthanized for each cause provides a more comprehensive look at the causes of mortality in a shelter. The authors hypothesized that owners were relying on shelters to take in cats that may have required euthanasia. Shelters who take in large proportions of cats who require euthanasia cannot be compared to shelters who take in few cats for euthanasia, as taking in cats in extremely poor health could cause euthanasia to be overrepresented as an outcome for cats in these shelters. Since shelter management practices differ, even between organisations who practice C4C, results cannot be generalized without appropriate attention to detail on individual shelter practices.

The Humane Canada (2018) case report update on the three shelters that implemented C4C included data for three more shelters who have also implemented C4C since the initial report was published in 2016. The sick population of cats in the six shelters declined by 30-87% (Humane Canada, 2018), which is likely the cause of effectively managing population as overcrowding is suggested to contribute to poor cat health (Turner and Kelsner, 1999; Gourkow and Fraser, 2006; Tanka *et al.*, 2012). All shelters experienced quantifiable improvements in live outcomes for cats, and improved welfare of animals in care, which was demonstrated by the lower incidence of disease. Specifically focusing on the Guelph Humane Society (GHS), Humane Canada (2018) reported a 63% decrease in euthanasia and a 14% increase in adoption. The statistics reported in the case study did not match those reported by Karsten *et al.* (2017). Karsten *et al.* (2017) identified each shelter by a letter and did not disclose the names of

the participating shelters. However, the three pilot shelters were also featured in the Humane Canada (2015) case study entitled “Capacity for Care (C4C) Case Studies”. Humane Canada (2018) and Karsten *et al.* (2017) used statistics that were representative of different time periods pre- and post-implementation of C4C, so temporal differences could have contributed to mismatched findings. Another discrepancy appears in the change in LOS reported by Humane Canada (2018). The increase of LOS by 31% reported by Humane Canada (2018) did not match any of the three shelters who participated in the Karsten *et al.* (2017) study, all showing a decrease in LOS. Janke *et al.* (2017) also examined changes in LOS for the GHS pre- and post-implementation of C4C. After implementation of C4C, the average LOS at the shelter decreased by 24% using data from 2011-2016 (Janke *et al.*, 2017). Although this cannot be thoroughly compared to the results from Karsten *et al.* (2017), due to shelter anonymity, both authors found an effect on LOS opposite in direction than the reported LOS for the GHS by Humane Canada (2018). According to the report, the five other shelters experienced a decrease in the LOS of cats in their facilities. It is difficult to make comparisons of the statistics, due to the anonymity of the shelters in one publication, but this illustrates the importance of sound data representation when using studies to inform practices. The Humane Canada report used data from one-year pre-implementation and one-year post-implementation, whereas Karsten *et al.* (2017) used data for at least two years pre-implementation. The different time periods used to calculate LOS may explain the conflicting results.

Janke *et al.* (2017) examined risk factors for LOS in a study of retrospective data from the Guelph Humane Society, one of the three shelters that were included by Karsten *et al.* (2017) and included in the Humane Canada C4C report (2018). The researchers used a Cox proportional hazards regression model to analyse their retrospective data that were obtained from the humane society's record keeping software. In addition to variables that were found to be significant in their model, the researchers also included two variables which were not significant. The researchers included colour and intake type in the model based on background information from previous studies which suggest that there is a link between LOS and these variables (Kay *et al.*, 2019; Brown *et al.*, 2013). Their model also included whether the cat was in the shelter before or after C4C, age, breed, and sex. In dogs, coat colour has also been shown to be associated with time to adoption (Kay *et al.*, 2019; Brown *et al.*, 2013). Additionally, appearance has been shown to be important when adopters are choosing their cat and to be a factor in LOS (Lepper *et al.*, 2002; Weiss *et al.*, 2012; Brown and Morgan, 2015).

Janke *et al.* (2017) reported that factors such as being a domestic shorthair coat type, a kitten <6 months, and female as risk factors for a longer LOS. When interpreting these results, it is important to consider background information. For example, it seems counterintuitive that kittens would be adopted more slowly than adult cats. The researchers have pointed out that they used the date of admission to calculate LOS in this study. Kittens may be restricted in how quickly they can be rehomed due to age, the inability to spay or neuter kittens who are too young, orphaned or ill. Shelters who

practice C4C often have foster families to house kittens while they grow to an appropriate size for surgery or recover from illness (Humane Canada, 2018). Foster homes can play an important role in rehoming, specifically in managing disease among kittens. Dinnage *et al.* (2009) reported URI in 26% of individual kittens and 32.8% of litters housed in the participating shelter. Although fostering is likely to increase LOS, it provides an opportunity for cats to grow and/or recover in a less stressful environment and limits the risk of spreading disease in the shelter, which ultimately results in more live outcomes for cats and increased capacity to accommodate cats. In the Janke *et al.* (2017) study, LOS stay was calculated from date of admission to date of adoption or censor. Cats who were transferred out of the shelter were censored whereas those who were euthanized or died in the shelter were excluded from the analysis. Including cats who were euthanized or died in care in future research could provide valuable information about how cats who are at risk of euthanasia or death in shelters are managed. Calculating time from admission to death for cats who were either euthanized or died could produce findings that suggest improvements in welfare for this group of cats.

In further support of the effectiveness of C4C, Janke *et al.* (2017) demonstrated the positive effect that C4C had on reducing LOS at the GHS. Interestingly, Janke *et al.* (2017) identified differences in LOS between different breeds and sexes. These results are supported by other research that shows there are strong preferences for certain characteristics by adopters (Weiss *et al.*, 2012; Ondera *et al.*, 2014; Zito *et al.*, 2015). Due to these preferences, it is important to keep records of cat population

demographics in shelter systems in order to address potential issues that may be related to cat characteristics. For example, if a certain characteristic caused a cat to be at increased risk of a negative outcome, being aware of this issue would allow for the development of a solution. It is evident by an abundance of research that many factors contribute to improving welfare in animal shelters, although only a minuscule body of research has examined C4C. Further, there is a lack of research addressing many elements of the C4C suite of tools. Further research evaluating the various elements of C4C would be beneficial.

For a shelter to practice C4C, they do not have to apply all of the recommended practices to their standard operating procedures. In the case study by Karsten *et al.* (2017), shelters were advised by experts on what aspects of C4C they should implement based on their current practices and what changes were feasible to begin their transition to practicing C4C. In addition to admitting and maintaining a population that is within a shelter's capacity to provide optimal care to all animals, improved housing and increased live outcomes for cats are major focus points for short term goals following the implementation of C4C in a shelter. Three major aspects of C4C include making modifications to protocols in order to optimize cat intake, improved housing, developing protocols and policies that maximize the number of cats who are rehomed. Controlling intake is paramount for practicing C4C, as controlling intake is what allows shelters to keep their population below the predetermined capacity within which the shelter is optimally able to operate. In addition, providing good quality housing is also an essential aspect of C4C, due to the major impact of housing on the wellbeing

of cats. Finally, C4C includes recommendations for adoption practices, as rehoming the maximal number of cats is the ultimate goal of sheltering. Maximizing adoptions improves shelter performance by allowing for the successful rehoming of more cats and decreasing the time that cats are staying in shelter prior to being placed in their new home. It is understood that all shelters may not be able to meet all of the guidelines recommended in the C4C strategy, however, shelters are encouraged to amend their protocols over time in order to work toward C4C process believed to provide desired welfare improvements.

### **1.3.1 Shelter Intake**

Managed intake allows shelters to control their populations. Although there are many ways shelters can choose to admit animals into their care, controlling admissions to ensure that the population does not exceed capacity is a crucial part of C4C (Karsten *et al.*, 2017; Humane Canada, 2018). Some shelters choose to have open admission, taking in any animal in need. Others have stricter admission criteria and turn animals away depending on age, reason for admission and other factors which may vary between organizations. As part of C4C, the aim of managed intake is not to discriminate between individual animals, rather to regulate admissions solely for managing shelter capacity. To adhere to C4C guidelines, shelters manage their intake based on their current in-shelter population capacity and accept new admissions as they are able to accommodate them. If the population is nearing capacity, intake will be slowed until more space becomes available to accommodate new admissions. Stopping intake completely is difficult as many shelters are contracted to provide animal control services

to their communities and are thus obligated to continue admissions. In Canada and the United States, municipal governments are required to enact and enforce animal control bylaws, and animal shelters are often contracted by local governments to provide these services. The organizations that employ animal control personnel generally aim to rehome, sterilize or euthanize unowned individuals (Humane Canada, 2017). Many shelters also provide cruelty and neglect investigation services which require them to take in cats with limited notice, and sometimes in large quantities in the case of hoarding situations. For these reasons, it is much more realistic to manage intake of owner relinquished animals to the shelter.

A reduction in shelter intake, among other suggested practices, can improve the live release rate for cats. Strategies to reduce animal intake include the education and promotion around responsible pet ownership, subsidised spay and neuter programs, offering alternatives to relinquishment and slowing intake when shelter capacity is reaching the upper limit (Humane Canada, 2017; Humane Canada, 2018; Karsten, n.d.; Rand *et al.*, 2018). Educating pet owners in the community can provide owners the knowledge they need to make decisions about sterilizing their cats and restricting outdoor access if sterilization is not available to them. These decisions could contribute to a reduction in the population of unwanted cats and total overpopulation issues. Maximizing adoption and other positive outcomes should be the primary focus of animal shelters (Humane Canada, 2018); however, given the large quantity of cats often requiring shelter services, overpopulation causes further stress on a shelter system, which cannot be ignored by the sheltering community.

Returning registered or licensed animals directly to their owners when appropriate is also used to reduce intake, but this practice is not used in all areas and can be restricted by resource and staffing availability (Rand *et al.*, 2018). Returning pets to their owners is a large focus for reducing shelter numbers, although this is often more effective for dogs than cats because more dogs are registered or are included in licensing laws than cats. The return to owner rate for cats in Canada was 10% in 2016, compared with 68% percent for dogs (Humane Canada, 2017). Redirecting intake where possible contributes to an effective intake protocol along with managing the intake of animals who must enter the shelter. For example, some shelters recommend that the finder of a suspected stray should attempt to reach out to neighbors about the ownership status of the cat and take the initiative to attempt to locate a potential owner, leaving the cat in the area it was found so that it is not unnecessarily being admitted to the shelter as a stray. Currently, there is no research evaluating the efficacy of these strategies for accurately identifying homeless strays and owned outdoors cats to measure the influence of managed intake on the stray community.

A common way for shelters who practice C4C to manage their intake of relinquished animals is through a waitlist (Humane Canada, 2018). When the in-shelter population is nearing capacity, a waitlist is a useful tool to slow intake and allows clients to be accommodated when appropriate shelter space is available. Setting relinquishment appointments is also a useful tool to establish boundaries when it comes to intake, to help prevent shelter staff from being overwhelmed by incoming animals (Humane Canada, 2018; Karsten, n.d.). Anecdotally, even when there is enough space

to accommodate a relinquished cat, a relinquishment appointment can give an owner time to consider their decision (Humane Canada, 2018). The impact of this waiting period on the owner's ultimate decision regarding their cat has not yet been studied. Understanding possible relationships between scheduled relinquishment appointments and cat outcomes could provide insight as to whether waitlists create the conditions needed for owners to independently consider other re-homing options.

Relinquishment is not always the best option for all individual cats and managing intake can provide the opportunity for animals to be diverted towards other options, providing some relief to shelters who are constantly working to combat companion animal overpopulation and high intake demands. Other options include advice for rehoming independently of the shelter and behavioural advice to support owners who would like to work through issues in order to retain their cat. Education could also play a role in preventing relinquishment or opening a dialogue with owners to discuss options and to determine if other supports might prevent relinquishment from occurring. In other cases, suggestions by shelter staff about behaviour modification can also result in an owner deciding to keep their cat. This provides the benefit of reducing the need for intake where possible and allow owners the opportunity to keep their cat.

A case study by Humane Canada (2018) reported changes in intake after implementing C4C in five shelters across Canada. A decrease in intake between 2 and 27% was reported, when comparing intake data 12 months pre- and post-implementation. Although evidence shows that C4C may be successful in reducing shelter intakes, some observers have been concerned that implementation of the C4C

management strategy could negatively impact animals that need access to support. It should be noted that the objective of C4C is not to reduce the total number of animals taken into the shelter, rather C4C guidelines suggest that intake should be reduced in order to operate at a capacity that is suitable for each individual shelter. With reduced intake and a more manageable in-shelter capacity, the LOS is likely reduced by moving animals through the shelter system more quickly. If this occurs, shelters may be able to accommodate a larger number of animals over time (Karsten, n.d.).

Focusing specifically on the GHS, Humane Canada (2018) reported a 10% decrease in intake when comparing the intake prior to the implementation of C4C with one-year post implementation. A study by Janke *et al.* (2018) also examined the intake of cats to the GHS. Intake data was analyzed from January 2011 to December 2015, noting changes after the implementation of C4C in August 2014. Janke *et al.* (2018) found that C4C did not have an effect on the admission trends and total intake when all age groups of cats were included in the analysis. The intake of kittens is thought to have a strong effect on intake numbers, as a “kitten season” is commonly recognised to happen during warmer temperatures (Gunther *et al.*, 2015; Janke *et al.*, 2018). After omitting kittens 6 months old and younger from the analysis, Janke *et al.* (2018) reported a 24% decrease in intake for adult cats. The mean monthly intake prior to C4C was 55 cats per month, reduced to a mean of 37 cats per month post implementation. During the study period, the GHS took in 541 relinquished cats which made up 16.4% of their total intake. Stray cat intake accounted for 79.9% of total intake, with the remaining cats being taken in as transfers from other facilities and as part of legal removals. Janke

*et al.* (2018) showed that although the total intake was not reduced, the intake of adult cats was decreased significantly. This could be due to the conversational nature of the communication which occurs between cat owners and staff members at the GHS during relinquishment discussions. Education and alternative rehoming suggestions are provided to owners by the GHS depending on the circumstances and willingness of the owners and may be an example of how C4C effectively diverted cats away from the shelter but saw no significant change in the total number of cats that were taken into their care. What the outcomes are for cats who are diverted away from the shelter is a crucial gap in the existing knowledge on managed intake that will be explored in the current research.

Certain characteristics of owners and cats have been reported to increase the risk of relinquishment to a shelter. A study by Patronek *et al.* (1996) examined characteristics of cats who were relinquished to a shelter and of their owners. The study used a case-control design, using relinquished cats as cases and cats who were selected by random digit dialing as controls. Risks for relinquishment were analysed based on data obtained from the two cat populations. Patronek *et al.* (1996) reported an increased risk of relinquishment associated with cats under 6 months of age (OR 14.18; CI, 7.41 to 27.10). It was also observed that being intact was associated with an increased risk of relinquishment (OR, 4.77; CI, 3.32 to 6.85). The study also found more cats kept indoors only were sterilized than those allowed access to outside ( $p < 0.0001$ ). Of relinquished cats, 49.1% were intact compared with 16.8% of non-relinquished cats. The method of obtaining a cat was also associated with relinquishment risk as cats

acquired for free were at increased risk of relinquishment compared to those who were purchased or adopted (OR, 2.00; CI, 1.29 to 3.1). Patronek *et al.* (1996) suggest that, based on their findings, multiple risk factors could be addressed in order to reduce the number of cats relinquished to shelter.

Based on the findings of Patronek *et al.* (1996), it could be suggested that the indoor/outdoor status of a cat and a history of veterinary visits are associated with retaining a household cat. In control cats, there was a trend for cats who visited a veterinarian more frequently to be kept indoors ( $p < 0.0001$ ). Outdoor access and being kept in a confined space were both associated with an increased risk of relinquishment (OR, 2.82; CI, 2.02 to 3.93 and OR, 2.72; CI, 1.21 to 6.21). Cats who had never visited a veterinarian were also at increased risk of relinquishment, which is an expected observation considering that a low average household income is also associated with an increased risk of relinquishment (Patronek *et al.* 1996). The owners of case cats were also more likely to report cost as a reason for not having their cat spayed/neutered ( $p = 0.03$ ).

It is difficult to distinguish whether a lack of value in a pet, lack of education regarding responsible pet ownership or inadequate access to needed services is associated with decisions made by cat owners. Some researchers (Menchetti *et al.* 2018) have suggested that it is more common for pet owners to incorrectly interpret cat behaviour than dog behaviour. There is a growing body of research on pet relinquishment in Australia aimed at understanding reasons for relinquishment.

Australia, like many other countries around the world, has a substantial population of

unowned cats. The RSPCA archives indicate that cats made up 40% of their total animal intake from 2012 to 2016 (RSPCA 2018). Zito *et al.* (2016a) designed a cross-sectional study to examine relinquishment differences between people who relinquished pets while identifying as the owner and people who did not identify as the owner. Understanding how and why people identify as caretakers or owners of cats will help interpret shelter intake data. Often, ownership is classified into “owned” or “unowned”; however, in reality there are more complex owner identities (Toukhsati, Bennett, & Coleman, 2007; Zito *et al.*, 2016). In the study by Zito *et al.* the odds of a person perceiving themselves to be the owner of the cat they brought to the shelter did not differ between employment status or socio-economic status (Zito *et al.* 2016a). Duration of time associated with a cat was the strongest determinant in whether a person identified as an owner. Although this study focused on relinquishments, the researchers also obtained information about unowned cats that study participants had interacted with. It was found that within 5 years prior to relinquishing a cat within the study period, 22% of “owners” and 24% of “non-owners” had at least one unowned cat residing on or around their property. Of this group, 24% of “owners” and 54% percent of “non-owners” provided food to the unowned cats. Knowing more about the unowned population of cats is crucial for addressing the issue of overpopulation shelter admissions (Zito *et al.* 2016a).

A second study by Zito *et al.* (2016b) examined the reasons for relinquishment of owned cats by their owners and by persons who did not perceive themselves to be the owner. They found that relinquishment reasons tend to be multifactorial, with 49% of

participants indicating that multiple strong reasons played a role in their decision. In the group of people who identified as the owner of the cat they relinquished, accommodation-related reasons accounted for 47% of responses. Seventy-nine percent of owners who listed accommodation issues as the reason for relinquishment could not find suitable accommodations for their cat. These reasons included having a “no pets” policy, roommates who would not allow pets, and dwellings that were thought to be too small for a cat. Personal reasons were the second most common reason for relinquishment, reported by 28% of owners relinquishing. The authors included tragedy, job loss, and relationship breakdown as examples reported as personal reasons for relinquishment. Cat behaviour accounted for 16% of relinquishment reasons, most commonly aggression or inappropriate elimination. Financial reasons were reported by 24% of owners who relinquished cats, and another 18% percent were relinquished for “other reasons”.

When Zito *et al.* (2016b) analyzed their data for unowned cats, it was found that almost all people who identified as non-owners provided multiple strong reasons for relinquishing the cat. On average, non-owners provided 3.4 reasons for relinquishment which is significantly higher than the average 1.6 reasons provided by owners ( $p < 0.01$ ). From the unowned group, 85% of cats were relinquished simply because the person relinquishing the cat claimed it was not theirs. Concern for the cat’s welfare was reported for 72% of unowned cat relinquishments and the belief that the cat would be better off in the shelter was reported for 59% owned cat relinquishments. The sample size was 51 individuals for the “owner group” and 122 individuals for the “unowned

group.” A larger sample size of owners who relinquish their cats should be obtained to increase understanding of reasons for owner relinquishment. The authors noted that recruiting participants through a shelter for a study of this nature was labour intensive and not practical during the busiest months of intake. It is extremely important for shelters to maintain accurate records, as the records are relied on to inform strategies to reduce shelter admissions. The relinquished population is a major part of the total population of companion animals who end up in the sheltering system. This population goes on to experience the stress of a shelter environment, increases risk of disease, and potential euthanasia due to overpopulation or shelter “time up” policies. The need for the study of relinquished animals can be further justified as more information on relinquishment is required in order to understand the efficacy of any existing and future interventions.

### **1.3.2 Shelter Housing**

Decreasing LOS using C4C goes hand-in-hand with improving housing conditions in shelters. Housing quality for cats has a strong impact on their welfare (Gourkow, 2001; Gourkow & Fraser, 2006; Gourkow & Phillips, 2016; Kry & Casey, 2007; Newbury *et al.*, 2010; Rochlitz, 1999; Suchak & Lamica, 2018; Vinke *et al.*, 2014; Wagner, Hurley, & Stavisky, 2018b, 2018a; Wagner *et al.*, 2018a). There are multiple variables to consider for when designing good housing for cats, especially in a shelter (Finka *et al.*, 2014; Kessler & Turner, 1998; Newbury *et al.*, 2010). Shelters are required to accommodate large numbers of cats and must maintain a clean facility in order to control disease. This creates barriers in designing housing as space is often limited, and

housing areas should ideally be created to allow for easy cleaning. There are evidence-based suggestions for the size and type of housing that a shelter can use to design or change their layout in order to better serve the cats. The “Guidelines for Standards of Care in Animal Shelters” (Newbury *et al.* 2010) states that primary housing should provide adequate space for cats to use normal postures when accessing their resources, resting and moving about their enclosure. The recommendations in this document are general, and do not include specific dimension for enclosures or population densities. The minimum recommended enclosure size depends on whether cats are being housed individually or communally, and this recommendation varies between authors. It is commonly accepted that organizations housing cats should aim to surpass minimum housing size recommendations and make educated decisions when choosing to house cats communally (Finka *et al.*, 2014; Suchak & Lamica, 2018). Housing multiple cats together has been criticized for increasing the likelihood of disease transmission and causing stress through resource conflicts, but evidence suggests that communal housing is beneficial when done correctly with the right individuals (Gourkow & Fraser, 2006). There are limited studies on optimal housing size for confined cats, however a recent study by Wager *et al.* (2018) observed that housing with floor space in excess of 8 ft<sup>2</sup> for individually housed cats is associated with lower rates of upper respiratory infections.

Although evidence suggests that communal housing can be a source of increased stress in shelter cats (Kessler and Turner, 1999), it has also been shown to improve the wellbeing of cats housed in groups by decreasing stress and reducing LOS

until adoption (Gourkov & Fraser, 2006). Communal housing can promote behaviors that are desirable to potential adopters. Cats may also be more likely to be active and social in communal housing, which are traits that adopters have reported factoring into their decision to choose a cat (Weiss *et al.*, 2012; Gourkov & Fraser 2006). A cohort study by Gourkov and Fraser (2006) aimed to examine how housing type affects stress levels and adoptions of shelter cats. For the purpose of this study, the researchers assigned 117 cats to one of four housing types. Cats could be assigned to basic single housing, enriched single housing, basic communal housing, or enriched communal housing. The basic groups were given food, litter and a bed. The design of the basic communal group was such that it allowed cats solitary spaces to minimize contact. To enrich housing, both individually and communally housed cats were given toys. The individually housed enriched cats were also given an additional shelf for perching, which also had a towel hung over it to provide a hiding space and further separation of litter from the rest of the cage. The communal enriched cats were also given hiding areas, as well as a play structure and several carpeted walkways. There was also a chair in the communal housing that encouraged visitors to sit with the cats. An outcome for each cat was recorded within 21 days of being placed into one of the 4 treatments. The cats housed in basic single housing spent an average of 12.5 days before they were adopted compared with 5.5 days in single enriched housing, 4.5 days in basic communal housing and 5.5 days in enriched communal housing. The cats in the basic single housing also displayed significantly higher stress levels when compared with the three other housing treatments. Cats who were eventually euthanized due to illness during

this study had significantly higher stress scores than cats who had been adopted, sent to isolation due to illness or who had not been adopted after 21 days. It was also observed that frequent positive handling and interactions with humans can decrease fearfulness and stress in shelter cats. Fearfulness was measured by a stress score which incorporated measures of body posture, activity level and vocalizations. The results from this study support the use of housing and social interactions with humans as tools to reduce stress in shelter and promote adoptions.

Like individual housing, minimum size requirements for communal enclosures have not been studied thoroughly. It has been observed that population densities in communal housing should be less than 0.6 animals per m<sup>2</sup> in order to avoid high stress levels. To ensure reduced stress levels for individuals in communal housing there should be sufficient resources for each cat to freely use what they need without being blocked or entering conflict with another cat. It is recommended that the number of new introductions to a communal group be limited to reduce the likelihood of causing tension between residents, even waiting until the entire group has been adopted before adding additional cats to a stable social structure. In addition to the minimum required resources of food, water, litter and a resting place (Newbury *et al.* 2010), it is important to provide cats with additional resting places and enrichment. Provisioning of resources beyond the basics of food, water, and litter can also have an impact on the overall health of cats. Toys, hiding and perching areas, and company of other cats have both been shown to significantly increase the likelihood of adoption for cats.

Improving housing is a key element of C4C, aiming to increase the size of

available housing and improve its quality. A key housing improvement as part of the C4C model is the use of portalized cages. Portalized cages are created by having two adjacent cages linked by a portal. This allows cats to have an eating and resting area separate from their litter. The portalized cages were well received by staff members from shelters who were represented in the Humane Canada report on C4C (Humane Canada, 2018). Shelters claimed that the portalized housing decreased stress and the occurrence of upper respiratory infections in their cat populations (Humane Canada, 2018). The reduction of ill cats reported in the C4C report is supported by the significant reduction in the isolation population described in the same report, and on the study of three of the same shelters by Karsten *et al.* (2017) that compared isolation population of these shelters pre- and post-implementation of C4C.

The effects of portalized cages on stress levels and the wellbeing of cats housed in a shelter environment has not been directly studied, however, several researchers have found evidence that housing modifications can have a significant positive effect on cat welfare (Kessler & Turner, 1999; Kessler & Turner, n.d.; Vinke, Godijn, & van der Leij, 2014; Wagner, Kass, & Hurley, 2018). The portalization of cages allows cats some choice in where they would like to rest, as well as a larger area for the cats to exhibit natural behaviors such as stretching and play. Further, the larger cage space provides more opportunity for the incorporation of perches and hiding places to improve housing quality (Rochlitz, 1999; Vinke *et al.*, 2014). The one potential limitation of creating portalized cages is that it reduces the number of available housing units; therefore, shelters must manage their intake appropriately to maintain their new optimal capacity.

### 1.3.3 Shelter Adoptions

Capacity for care aims to decrease LOS, as well as improve adoption rates in order to maximize the number of cats the shelter can service. Increasing adoption rates should be a major goal of all shelters, using LOS as an indicator of performance (Karsten *et al.*, 2017; Wagner, Hurley, & Stavisky, 2018). Financial incentives, such as decreasing or waiving initial adoption fees, have been commonly used as a tactic to increase adoption rates. These methods, although successful at increasing adoptions, have been critiqued for enabling irresponsible adoptions inspired by low or no cost adoption fees (Crawford, Fontaine, & Calver, 2017; Weiss & Gramann, 2009). Ideally, simple adoption screening would recognize and prevent such adopters from acquiring a cat. However, once a cat is in its new home, evidence suggests that there is no difference in human-cat bond between owners who paid a full adoption fee and those who received a promotion fee at the time of adoption (Crawford *et al.*, 2017).

A study by Crawford *et al.* (2017), followed up with owners who adopted a cat for free at an Australian shelter's promotional event, compared with adopters who paid a fee. Adult cats over one year of age were eligible for the promotion and to be included in the study. The survey attempted to follow up with 100 adopters who adopted an adult cat for free during a promotional weekend and 120 adopters who adopted their cat for the normal price, during the winter of 2015. A greater proportion of first-time owners adopted a cat during the free promotion. There was no difference in the demographic profile of adopters in each group; however, free adopters were more likely to have learned about the event from social media whereas adopters who paid the normal fees

were more likely to learn about the existence of the organization via word of mouth. This suggests that different promotional media could be useful in targeting different groups of potential adopters to maximize the audience reached through promotional materials. Targeting promotions towards new pet owners would be beneficial for shelters who wish to increase their adoption numbers.

There was no significant difference observed between free-adopters and adopters who paid a normal fee in regard to the likelihood of an owner to place a collar on their cat, to register their cat or to allow the cat to free roam outdoors (Crawford *et al.*, 2017). Collar use and registration were used as husbandry compliance variables, as these are required in the study area. The follow up survey did not reveal any significant differences in medical or behavioural problems that occurred in the cats' new homes. Additionally, 80% of cats who experienced a medical issue in their new home received medical care, regardless of whether they were adopted for free or for a normal fee. It was also noted that the perception of behavioural problems that may lead an owner to relinquish their cat was similar between groups. The post-adoption survey included a question about whether or not the information provided to the adopter in a take-home information package was useful to them, but the researchers did not report any data associated with this question. It is possible that the researchers missed an opportunity to evaluate the use of educational materials post-adoption. It would have been beneficial to report findings on the education material, regardless of their significance, due to the lack of information that exists on the efficacy of educational materials.

Crawford *et al.*, (2017) reported that the promotion was well received in the community, increasing cat adoptions for the entire week that included the free cat promotional weekend. The free cat adoption drive rehomed 37 adult cats during a three-day long weekend, and an additional 45 cats during the week that included the adoption drive. The average number of adoptions for adult cats during a non-promotional week in the same year this data was obtained was 34.11 cats. The promotion was successful at rehoming cats for no fee but also for promoting adoptions in general, which is likely what contributed to the increase in normal-fee adult cat adoptions that occurred during the same week as the promotional weekend. The shelter also observed an increase in the adoption of kittens, who were not offered for a reduced fee. During the week including the free weekend 199 kittens were adopted, which is substantially more than the average of 52.25 kittens during a non-promotional week. Increasing promotional material for the shelter leading up to the adoption drive could have contributed to an increase in adoptions, but it is unlikely that the magnitude of adoptions could be attributed to promotion alone.

The shelter that participated in this study was an open admission shelter with a goal of zero-euthanasia for healthy, adoptable animals. Open admission shelters are challenged by the continuous demand for intake. The CEO of the shelter in this study commented on the decision to offer cat adoptions for free, explaining that offering cats for free was more ethical and in line with the shelter's values than euthanizing them. In this case study, the shelter expressed that it had no option except to offer cats at a waived fee or to euthanize them. Neither option would benefit them financially, and it

can be assumed that euthanasia would occur at some monetary cost. The findings of this study support the use of waived adoption fees to increase adoptions yet did not address the financial consequences that would undoubtedly have an impact on rehoming organizations relying on the adoption fee for financial stability. It is difficult to extrapolate these findings to other organizations, as the operations of shelters can differ drastically from one another. In the Humane Canada C4C report, shelters reported that it was difficult to evaluate the financial impact of reduced adoption fees for promotional events and other costs associated with following C4C guidelines outside of the initial costs to portalize the cages. Some shelters did report significant savings in medical fees as a result of a decreased incidence of upper respiratory infection and other illness; however, the costs and savings incurred as a result of C4C were not the focus of the report and were not discussed in detail (Humane Canada, 2018). It would be impossible to apply results from one shelter to another shelter without considering both shelter values, resources and operations.

In addition to financial tools, operating procedures can improve adoption rates by creating customer service friendly adoption processes that allow adopters to take their chosen cat home sooner. Limiting adoption barriers that arise through strict checklists by using shorter applications and including conversations as part of the adoption process is more appealing to potential adopters (Humane Canada, 2018). Some shelters have implemented a behavior assessment called Feline-ality in order to match cat behavior profiles with adopter behavior preferences in hopes of increasing adoptions and securing long-term adoption success.

To evaluate the Feline-ality assessment Weiss *et al.*, (2015) presented cat owners with a post-adoption survey to determine if the Feline-ality assessment could predict in-home behaviour. During this study, adopters chose cats outside of their recommended Feline-ality category 44% of the time and there was no evidence to suggest that the use of this assessment was more beneficial than simply having an open dialogue meeting with the adoption counsellor. Conversational adoption meetings are recommended by the C4C model and have received a positive reaction from shelter staff (Humane Canada, 2018).

## 1.4 Conclusion

In conclusion, the three existing studies on the impact of C4C in a shelter provide evidence that C4C has promise as an effective strategy to manage shelter cat populations. Reducing the number of available housing units in order to create optimal housing size with adequate enrichments requires a reduction in the shelter population. The managed intake and improved housing components combine to create the conditions necessary to reduce LOS, so that cats are experiencing positive outcomes more quickly. Managed intake is an effective method to control shelter populations, although restricting intake in any way can be viewed negatively because shelters are perceived to be denying animals in need. In addition, there has been no research focused on the effect of managed intake on the broader cat community and what outcomes may be occurring for cats whose admission into a shelter is deferred.

Existing evaluations of C4C have used quantitative methods to examine the influence of C4C on shelter parameters such as LOS, isolation population, intake, adoptions and rate of euthanasia. Our research uses a mixed-method approach to examine the use of managed intake as part of C4C. The benefit of a qualitative approach is the ability to gain a deeper understanding of the influence of managed intake in shelter and on the community by learning about perceptions of C4C from shelter staff members. These studies contribute valuable new information to the evaluation of C4C as a shelter cat population management strategy and provide direction for future research to improve how shelters support cats within their communities.

## 1.5 Research Objectives

The primary goals of this research were to determine the impact of using a waitlist and strategies to divert intake as a component of the shelter management strategy C4C, on cats whose owners are seeking to relinquish them. To address the goals of this thesis, one quantitative and one qualitative study were conducted. The goals of the quantitative study were to:

- 1) characterize the population of owned cats whose owners contacted a shelter that practices managed intake with the intent of relinquishing one or more cats, and
- 2) report outcomes for this population.

To address these goals, intake data for owned cats was obtained retrospectively for a one-year period from the GHS, which practices managed intake as part of the C4C program. Data was obtained on cats whose owners reached out to the shelter for possible relinquishment. These data included cat demographic information, reasons for relinquishment, rehoming options owners considered by owners and cat outcomes.

The goals of the qualitative study were to:

- 1) understand staff experiences using C4C, specifically managed intake
- 2) explore staff perceptions of how the C4C model has been regarded by other staff at their facility, and

3) explore the response of community members who are attempting to relinquish their cats, as perceived by the staff who are communicating with cat owners and scheduling relinquishment.

The qualitative study used a survey and semi-structured interviews with participating staff members from shelters who practice C4C to understand the perception of managed intake in a shelter and how shelters have responded to C4C, with a focus on managed intake. Staff members shared their experiences and perceptions of C4C, as well as how they perceived C4C to be received by their coworkers and by members of their community.

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## 2 The impact of managed intake as part of Capacity for Care (C4C) on cat outcomes

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### 2.1 Abstract

Capacity for Care (C4C) is a shelter management strategy that has demonstrated the ability to improve the welfare of cats in a shelter's care. Managing shelter intake using intake waitlists and scheduled intake appointments is a key feature of C4C. As result of managed intake, cats are not immediately taken into the shelter at the request of their owners, rather they are placed on an intake waitlist. The purpose of this study was to describe the population of owned cats whose owners reached out to the Guelph Humane Society (GHS) to explore the option of relinquishing, and to report outcomes for this population. This study also examined associations between cat outcome and 1) rehoming options under consideration by owners at the initial point of contact with the shelter, 2) cat source and 3) reason for relinquishment. Data were collected from the Guelph Humane Society from July 2017 to June 2018. Associations between reasons for potential relinquishment and outcome were observed in cases where cat medical issues or owner medical issues were reported. A higher proportion of cats with medical issues were kept compared with being relinquished ( $p < 0.01$ ), rehomed ( $p < 0.01$ ) and having an unknown outcome ( $p < 0.01$ ). A greater proportion of cats whose owners had medical issues were relinquished, compared to the owner retained category ( $p < 0.02$ ). After a waiting period, a number of cats did enter the GHS.

Some cats were rehomed independent of the shelter by their owners or retained in their households. The larger number of cats whose outcomes were unknown suggest an area for future research in order to further understanding the outcomes are occurring for cats whose admission to a shelter is deferred.

### **Keywords**

Capacity for Care; managed shelter intake; cat outcome; relinquishment; surrender

## 2.2 Introduction

High density populations and inadequate housing compromise the wellbeing of cats in shelter environments by increasing frequency of illness and stress (Dinnage, Scarlett, & Richards, 2009; Gouveia, Magalhães, & de Sousa, 2011; Kessler & Turner, n.d.; Tanaka, Wagner, Kass, & Hurley, 2012). Shelters are often overwhelmed by cat intake, resulting in increased stress, disease and euthanasia rates (Kessler & Turner, 1997, 1999; Kessler & Turner, n.d.; McCobb, Patronek, Marder, Dinnage, & Stone, 2005; Mozes, Pearl, Niel, & Weese, 2018). Shelter populations grow quickly and become unsustainable when limited resources hinder the ability to efficiently rehabilitate and rehome homeless cats.

Adoption, euthanasia and education are strategies used to address overpopulation, although euthanasia is controversial and the impact of education is not well studied (Coe *et al.*, 2014; Humane Canada, 2018). Existing research focuses heavily on identifying shelter conditions that improve welfare, increase adoption rates and reduce euthanasia as a result of overpopulation (Kry & Casey, 2007; Vinke, Godijn, & van der Leij, 2014; Wagner, Kass, & Hurley, 2018; Wagner, Hurley, & Stavisky, 2018; Weiss, Patronek, Slater, Garrison, & Medicus, 2013). An increase in length of stay (LOS) in shelters is associated with decreased welfare, as LOS is associated with an increased risk of disease and euthanasia (Mozes *et al.*, 2018). In addition to LOS, population density and housing are two elements which have also had a large impact on the welfare of shelter cats (Gourkow & Fraser, 2006; Newbury *et al.*, 2010; Wagner *et al.*, 2018). A recently formulated shelter management strategy called Capacity for Care

(C4C) incorporates these three elements into an overall best-practices approach (Humane Canada, 2018; Karsten, n.d.; Karsten *et al.*, 2017).

Capacity for Care aims to improve welfare conditions in shelters by optimizing housing and ensuring that populations do not exceed a predetermined capacity. The major elements of C4C include: portalized housing, sanitation protocols which cause minimal stress, minimizing adoption barriers, adoption promotions, categorical pricing for less desirable cats, fast-tracking healthy cats to adoption, scheduling intake appointments and managed intake (Humane Canada, 2018). A reduction in LOS may be a result of implementing C4C, as aiming to reduce LOS is an element of C4C itself. (Humane Canada, 2018; Karsten *et al.*, 2017). Maintaining an optimal shelter population through C4C has been shown to help reduce LOS, and decrease euthanasia rates (Karsten *et al.*, 2017, Karsten, n.d.). Each shelter has its own unique capacity and may use a combination of several strategies from the C4C model to improve welfare conditions in an individual shelter.

Managing intake is a crucial component of C4C, as this allows shelters to control their populations and admit new cats only when resources are available (Karsten n.d.; Humane Canada, 2018). Intake depends largely on available housing. Paradoxically, to increase available housing, renovating existing housing by portalizing two side-by-side kennels to allow a separate litter area and an increase in space is recommended (Humane Canada, 2018; Karsten *et al.*, 2017). While this reduces the overall number of housing options, cats housed in these larger spaces are less stressed and exhibit more natural behaviors allowing potential adopters to bond more easily (Fantuzzi *et al.*, 2010;

Humane Canada, 2018; Karsten, n.d.; Weiss *et al.*, 2012), increasing adoption and in turn the overall number of cats a shelter can house over a defined period of time. In addition, the overall lower number of cages has been anecdotally suggested to decrease the risk of decision paralysis which can result from an abundance of choice options for adopters. Both aspects are hypothesized to have the potential to decrease LOS and increase overall throughput of total numbers of animals through the adoption process and thus improve the shelter's capacity (Humane Canada, 2018; Karsten, n.d.). Available housing is reduced to improve housing conditions and general welfare of cats, making managed intake an important element of C4C by obtaining intake rates appropriate for a shelter's housing capacity.

As shelters transition to using C4C strategy, two studies and one case report have demonstrated a decrease in overall intake following the implementation of C4C (Humane Canada, 2018; Janke *et al.*, 2018; Karsten *et al.*, 2017). The decrease in intake reported may have been influenced by several factors. The pilot shelters in the case report used relinquishment appointments, waiting periods, and education for managing cat intake (Humane Canada, 2018). The pilot shelters attempted to provide clients with information needed to independently address pet issues and explore other rehoming options. Owner education is a common strategy used to divert intake, although limited research exists to support the idea that waitlists and education are able to significantly reduce relinquishment (Coe *et al.*, 2014; Humane Canada, 2018). While a decrease in overall intake has been observed, research has not explored the impact on families pursuing relinquishment that are put on a waitlist.

Although C4C has shown promise as a strategy for improving the welfare of cats in a shelter, the impact of C4C beyond the shelter has not been studied. Managed intake can be utilized as part of C4C to control the in-shelter population and prevent it from exceeding optimal capacity. The impact of managing the intake of owned cats can be crucial for maintaining optimal populations, yet the effect of managed intake on the broader cat population and owners whose needs cannot be immediately met have not been studied. Common reasons for relinquishment have the potential to negatively impact the wellbeing of cats and their caretakers, thus further examination of managed intake and specifically deferred entry to a shelter is crucial for understanding C4C and the impact of C4C on the entire community.

The primary objectives of this study were to characterize the population of owned cats whose owners contacted a shelter that practices C4C to explore relinquishment of their cat and who were waitlisted as part of managed intake, and to report outcomes for this population. It is hypothesized that, after a waiting period, cats will be relinquished to the GHS or independently rehomed by their owners. This study also examined associations between cat outcome and 1) rehoming options under consideration by owners at the initial point of contact with the shelter, 2) cat source and 3) reason for relinquishment. It is hypothesized that rehoming options under consideration, cat source and reasons for relinquishment will be associated with cat outcome.

## 2.3 Methods

The research protocol was reviewed and approved by the University of Guelph's Research Ethics Board for the involvement of human participants (REB# 180207).

Capacity for Care was implemented at the Guelph Humane Society (GHS), in August 2014. The GHS is a non-profit organization that provides a variety of animal welfare services to Guelph and surrounding townships. The organization provides by-law enforcement services, cruelty and neglect investigations, and emergency response to domestic species and wildlife. In 2018, the GHS provided care to 2977 animals, including cats (939), dogs (486), small animals (277) and wildlife (1246). The live release for cats in 2018 was 94%. The GHS uses portalized cages to house all non-feral cats in the shelter, and satellite locations in the community to promote adoptable cats. Foster homes are used to house kittens until they are able to be spayed or neutered, and cats who require medical care and socialization. As per C4C guidelines, cat adoption applications are short and meetings with potential adopters are conversational. The humane society uses categorical pricing for cats based on age and holds regular adoption events. Scheduled intake is a key component of C4C used at the GHS, along with using a waitlist to manage intake during periods when the shelter is unable to accommodate new intakes. As part of the intake protocol at the GHS, staff record information about potential relinquishment on a relinquishment form when contacted by an owner. The initial information on the relinquishment form is transferred into shelter management software (PetPoint, Pet Health Inc.) along with any further details from

additional communications with the owner. This study used secondary data that was retrospectively collected from the GHS from July 2017 to June 2018 on the relinquishment forms and recorded in the shelter management database.

Records included multiple cats in the case of multi-cat households, or if a person was calling regarding concerns that were applicable to multiple animals. A record was considered to be the combination of the relinquishment form and the database information for an individual calling to relinquish a cat. Stray, feral and barn cats indicated as unowned or whose caregivers no longer wanted to provide care for them were not included in the data. Cats who required an emergency short-term (72-hour) housing were excluded from the data set. Further, cats who required an emergency relinquishment were not included in the dataset because these circumstances are managed differently from relinquishments for non-emergency reasons. Records were excluded if the caller was not the owner or primary caregiver of the cat, if no owner could be clearly identified, or a cat was abandoned with no primary caregiver. Records were also excluded in the case of callers who had made a relinquishment appointment prior to the start of the study period, yet who reached out again during the study period resulting in the creation of duplicate records.

Cat demographic data obtained from the GHS relinquishment forms or shelter management software database included cat age, sex, neuter status, breed, declaw status, original source of the cat, length of ownership, reason for relinquishment, rehoming options owners were considering, relinquishment wait time, the number of contact points between cat owners and GHS, and outcome for the cat. Relinquishment

wait time was measured from the day in which a cat owner was placed on a waitlist to the day of relinquishment, or from the day an appointment was made until the day of relinquishment for cats whose future appointments were scheduled as opposed to being put on a waitlist for an undetermined amount of time. If a cat was taken in by the shelter before the scheduled relinquishment date due to newly available space, the time between when the appointment was scheduled, and the new relinquishment date was considered to be the relinquishment wait period. Cats were classified into five original sources; adopted from a shelter/ rescue, from family members or friend, from farms or obtained as a stray, offspring of an owned cat, or from an unfamiliar person (online or in person). Cats were categorized into four owner-reported outcome groups: owner retained, rehomed, relinquished to the GHS, or unknown. In the case of owner retained or rehomed outcome, the outcome information was recorded during routine follow-up communications with the owner to schedule an intake date and time. Cats in the relinquished group were confirmed to have been relinquished using the shelter management software. Options considered by cat owners at the time of contact were relinquishing to the GHS, keeping their cat, or re-homing their cat to a new home or rescue independent of the shelter. The frequency that owners reported considering these options were calculated for each outcome group. A mean, median, standard deviation, minimum and maximum were calculated for the continuous variables: age, length of ownership, relinquishment wait time, the number of contact points between GHS and cat owners, and the number of contact attempts that occurred between GHS staff and cat owners. Frequencies were calculated for categorical data including sex,

neuter status, breed, declaw status, cat source, reasons for relinquishment, rehoming options owners considered, and outcomes were also tabulated. Cats with missing variables were included in the data set for descriptive statistics and analysis for variables in which information was available. No case was missing a relinquishment reason or an outcome.

The data was analysed for associations between categorical variables using Pearson's Chi-Squared (length of ownership and age; source of cat and outcome; reason for relinquishment and outcome; options considered by owner and outcome). The cat source, relinquishment wait time, reason for relinquishment, age and length of ownership were compared between outcome groups. Analysis was done using a Kruskal-Wallis test when data did not follow a normal distribution. Normality was assessed by plotting residuals and using a Shapiro-Wilks test. A significance level was set at 0.05 and analyses were performed using standard software (SAS Institute Incorporated, Version 9.4).

## 2.4 Results

### *Descriptive*

During the study period, records for 298 cats were evaluated and included in the study. A total of 16 records were omitted, which excluded data for 53-56 (variation due to callers estimating the number of cats involved) cats. **Table 1.1** summarizes reasons for exclusion.

**Table 1.1:** Reasons for exclusion from the study population

<b>Exclusion Criteria</b>	<b>Number of Records</b>	<b>N of cats excluded</b>
<b>Feral or stray</b>	8	18
<b>Cats who required temporary housing</b>	1	2
<b>Barn cats</b>	2	12
<b>Owners who created a surrender Appointment before the study period</b>	1	3
<b>No clear owner and/or information provided is suspected to be inaccurate</b>	1	8
<b>The caller was not the owner or primary care giver of the cat</b>	3	10-13*
<b>Total</b>	<b>16</b>	<b>53-56</b>

\*Number of cats estimated by the caller resulting in a range.

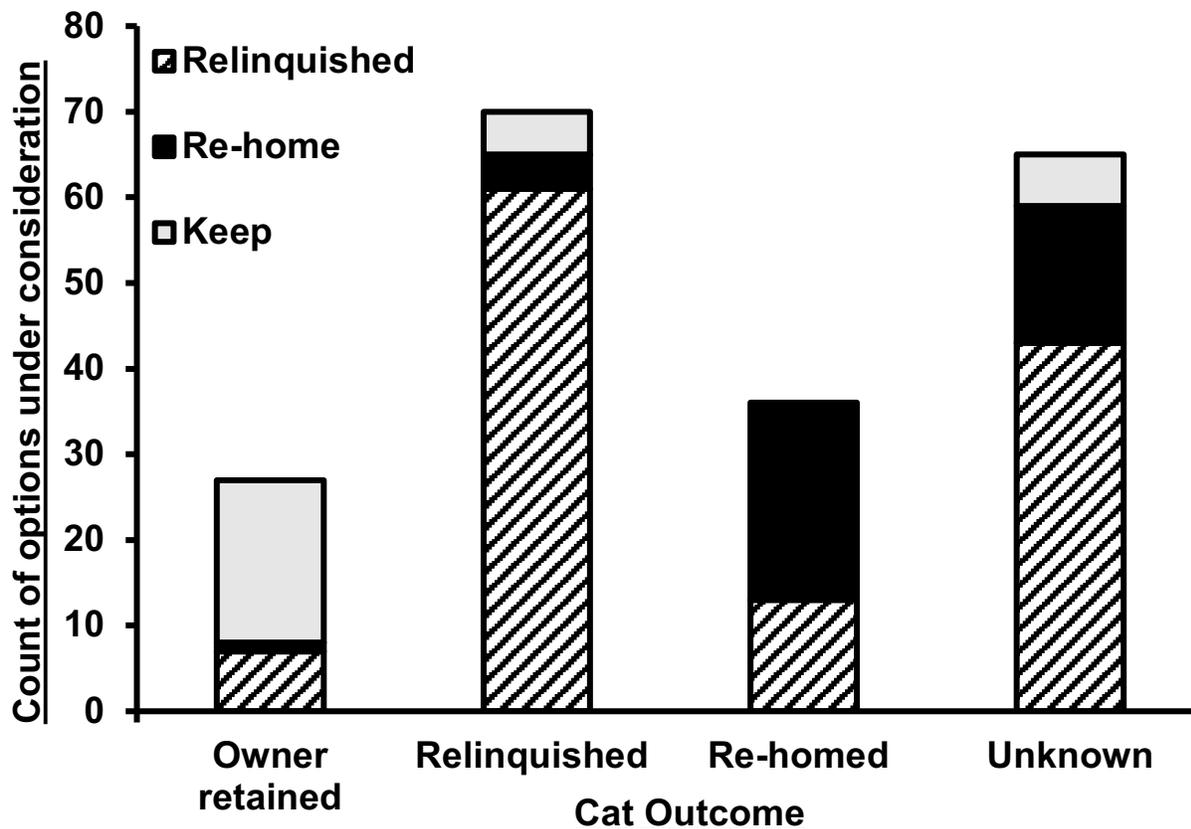
Of the 298 cats, 43% (129/298) had unknown outcomes, 10% (31/298) were retained by their owners, 15% (45/298) were re-homed by their owners, and 31% (93/298) were relinquished to the Guelph Humane Society. **Table 1.2** summarizes cat

demographic information, cat source, and reasons for relinquishment for the total study population. Of the cats with a known sex (n=281), 192 (68.3%) were spayed or neutered. There was no association between outcome and the original source of the cat. Further, there was no association between length of ownership and age of the cat. Information about options that owners were considering when they first contacted the GHS were available for 183 cats. The options considered by owners for cats in each outcome group are represented in **Figure 1**.

**Table 1.2:** Characteristics of cats involved in the study population (n = 298)

	<b>n</b>	<b>Percent %</b>
<b>Breed</b>		
Domestic short hair	153	73.9
Domestic medium hair	18	8.7
Domestic long hair	20	9.7
Purebred	16	7.7
<b>Total</b>	<b>207</b>	
<b>Sex</b>		
Female unspecified	7	2.5
Female intact	43	15.3
Female spayed	88	31.32
Male unspecified	8	2.9
Male intact	31	11.0
Male neutered	104	37.0
<b>Total</b>	<b>281</b>	
<b>Declaw status</b>		
Yes	41	17.4
No	195	82.4
<b>Total</b>	<b>236</b>	
<b>Original Source of the Cat</b>		
Adopted from a shelter	65	31.4
Family or friend	79	38.6
Farm or stray	19	9.2
Offspring of pet	20	9.6
From unknown person/ online/ free	24	11.6
<b>Total</b>	<b>207</b>	
<b>Frequency of Reasons for Surrender</b>		
Financial	25	8.4
Housing	41	13.8
Aggression	58	19.5
Cat Medical	74	24.8
Owner Medical	76	25.5
Other Owner Circumstances*	83	27.9
<b>Total</b>	<b>298</b>	

\*Examples of other owner circumstances include relationship breakdown, insufficient time for pet ownership and lifestyle changes.



**Figure 1:** The frequency of options under consideration by owners at first contact with the Guelph Humane Society for each of the 4 possible outcome groups; owner retained, relinquished, re-homed, unknown (n=183). Owners were able to indicate multiple options, therefore the total number of options indicated does not equal 183.

The mean age of cats in each outcome group and the duration of time they were owned are summarized in **Table 1.3**. The mean age of cats in the total study population was 5.1 years ( $\pm 4.2$ ). The mean length of time that a cat had been owned when their owner contacted GHS was 3.7 years ( $\pm 4.0$ ). One cat who was owned for 1 day was excluded from the analysis when examining associations between length of ownership and other variables. The relinquishment wait time for this population was a median of

20.1 days (min 0, max 56 days). After an individual called the shelter requesting relinquishment, shelter intake staff contacted the cat owner after a median of 1 day (min 0, max 81 days). Owners contacted the GHS on a median of 1 occasion (min 1, max 4). GHS staff contacted cat owners on a median of 1 occasion (min 0, max 3).

**Table 1.3:** Age of cats in the study population and time owned before considering relinquishment to Guelph Humane Society n=298

	Mean	Median	Minimum	Maximum
<b>Total Study Population</b>				
Age	5.10	4.0	0.135	18
Time owned for	3.71	2.3	0.003*	18
<b>Owner Retained Cats</b>				
Age	5.71	4.0	0.192	17
Time owned for	5.04	4.5	0.057	17
<b>Rehomed Cats</b>				
Age	4.66	3.0	0.167	16
Time owned for	4.04	1.5	0.167	16
<b>Surrendered Cats</b>				
Age	5.5	4.0	0.212	15
Time owned for	4.18	3.0	0.003*	14
<b>Unknown Outcome Cats</b>				
Age	4.63	4.0	0.135	18
Time owned for	2.95	2.0	0.038	18

All values are in years.

\*One cat owner had only owned their cat for 1 day before contacting the GHS about rehoming. This individual was excluded from the analysis of association between length of ownership and other variables.

### *Relinquishment wait*

Of cats that had a scheduled relinquishment appointment, 10 cats were retained by their owners, 10 cats were independently rehomed, 76 cats were relinquished, and 48 cats had an unknown outcome. The relinquished category was the only group whose owners followed through with the appointment, relinquishing the cat to the GHS. There was an association between wait time and final outcome for cats, with the relinquished category having the shortest wait time, a mean of 15 ( $\pm$  16.7) days. Cats in the unknown outcome category had the longest mean wait time at 26 ( $\pm$  19.0) days until their scheduled relinquishment, which was significantly greater than the wait for the relinquished group ( $p < 0.01$ ). Relinquishment wait times are summarized in **Table 1.4**. There were appointments scheduled for 48 cats (37.2%) in the unknown category whose owners did not appear at the appointed relinquishment time and had no further contact with the GHS to reschedule or offer information about actions they had taken to address rehoming their cats.

**Table 1.4:** Relinquishment appointment data for the outcome categories n=144

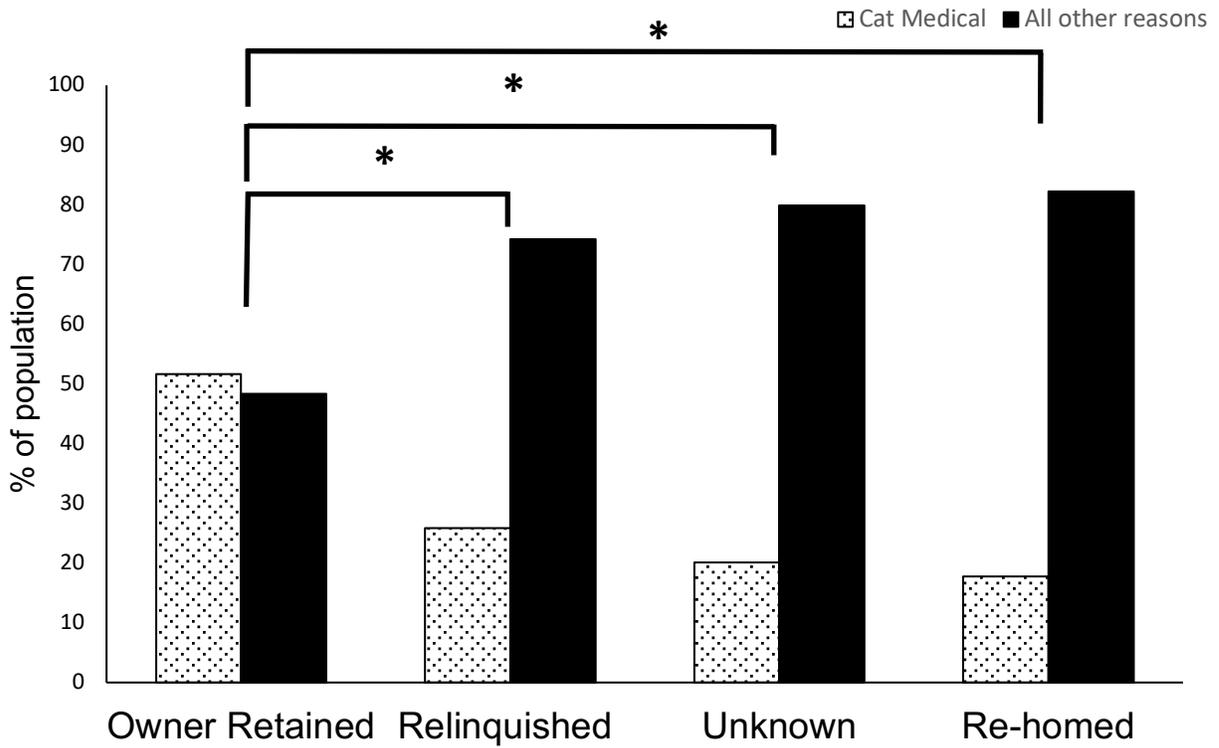
	Mean relinquishment wait (d)	# of scheduled relinquishment appointments	% of category with scheduled appointments
<b>Owner Retained</b> (n=31)	25.7	10	32.3
<b>Rehomed</b> (n=45)	23.3	10	22.2
<b>Relinquish</b> (n=93)**	15.1	76	81.7
<b>Unknown</b> (n=129)	26*	48	37.2

\*The unknown outcome category had a significantly longer wait period from the date of booking a surrender appointment to the day of the surrender appointment ( $p < 0.01$ ).

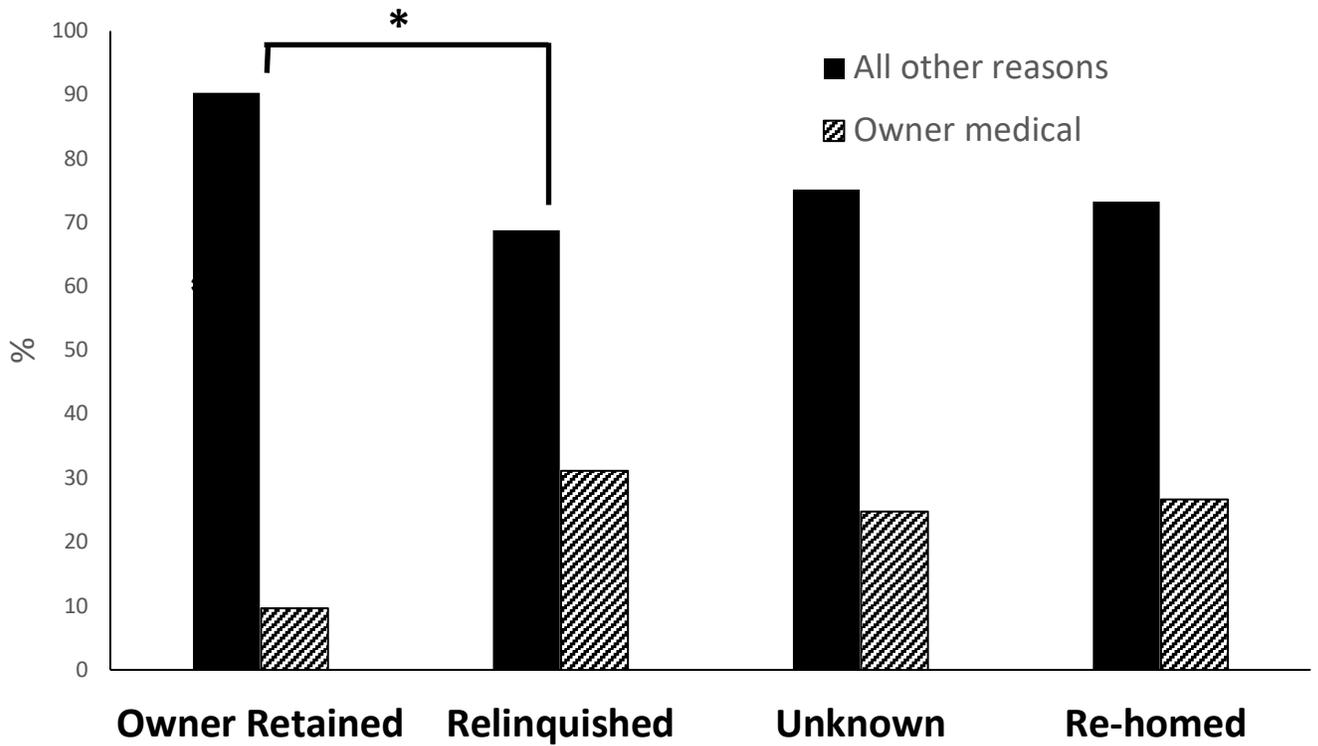
\*\*Some cats were on a waitlist or owners were contacted when space became available. In these cases, no surrender appointment wait time was available.

#### *Differences between reason for relinquishment and outcome*

The proportion of cats where a medical issue was reported as the primary reason for relinquishment was significantly increased for the owner retained outcome group when compared with the rehomed ( $X^2_{(1)} = 9.73$ ,  $p = 0.002$ ), relinquished ( $X^2_{(1)} = 7.09$ ,  $p = 0.008$ ) and the unknown outcome groups ( $X^2_{(1)} = 12.77$ ,  $p < 0.001$ ) (**Figure 2**). The proportion of cats where the cat's contribution to human medical issues in the home was reported as the primary reason for relinquishment was significantly higher in the group of cats who were relinquished by their owners compared to cats that were retained ( $X^2_{(1)} = 5.62$ ,  $p = 0.002$ ). (**Figure 3**).



**Figure 2:** The proportion of cat medical problems reported as a reason for relinquishment for each outcome. \*A higher proportion of cats with medical issues were kept compared with being relinquished ( $p < 0.01$ ), rehomed ( $p < 0.01$ ) and having an unknown outcome ( $p < 0.01$ ).



**Figure 3:** The proportion of cats whose owners reported their own medical problems as a reason for relinquishment for each outcome. \*A greater proportion of cats whose owners had medical issues were in the relinquished category, compared with retaining them ( $p < 0.02$ ).

## 2.5 Discussion

To the authors' knowledge there are no reports examining the impact of managed intake as part of C4C on the overall community of cats and on families considering relinquishment. This study characterizes the population of owned cats that were waitlisted following their owners' contact to a shelter to explore relinquishment of their cat. Typically, shelters take in cats from a variety of sources including strays, legal removals and owner relinquishments. At the GHS, owner relinquished cats accounted for approximately 16% of intake between 2011 and 2015 (Janke *et al.*, 2018). Seasonal trends and year over year fluctuations in intake are common; therefore, previous reports of decreased intake following C4C implementation may have been affected by these variations, making interpretation challenging. Janke *et al.* (2018) examined the effect of C4C on the intake trends of cats admitted to the Guelph Humane Society. This study accounted for the seasonal and annual variations in intake and showed that the intake of adults cats was significantly reduced by 24% following the implementation of C4C. Karsten *et al.* (2017) measured the change in intake in three Canadian pilot shelters who also implemented C4C, finding no change, a 4% increase and 29% decrease among the three participating shelters. Managed intake is a key element of C4C, and evidence suggests that it can reduce shelter intake of cats, although more information is needed about how owners make decisions to keep or rehome their pets after reaching out to a shelter utilizing C4C for assistance.

Our study found no evidence that owners are choosing undesirable options for their cats, such as euthanasia, releasing them outdoors, or abandoning them, but this

should be interpreted cautiously as in our study population, 43% of cats had an unknown outcome. Due to the use of retrospective data and potential self-reporting bias, more work should be done to examine potential outcomes for cats whose admission to a shelter is deferred. Our work does suggest that owners can be resourceful; with a number of individuals involved in the current study independently finding alternatives to relinquishing their cat. Of the 169 cats with a known outcome, 31 (18%) were retained by their owners and 45 (27%) owners reported that they found other accommodations for their cats. In the C4C case report (Humane Canada, 2018), pilot shelters reported that owners were actively attempting and succeeding in rehoming their cats during the waitlist time period. The GHS, and other shelters who practice C4C, inform owners about recommended practices for independently rehoming their cats (Humane Canada, 2018). It is plausible that education and advice from the shelter staff during initial contact with the shelter may have played a role in cats remaining with their owners or successful independent rehoming.

There were no significant differences in the age of cats or length of ownership between outcome categories. Previous studies have suggested that there is a relationship between length of ownership and relinquishment, where relinquished animals were, on average, younger and owned for a shorter time when compared with non-relinquished household cats (New *et al.*, 2000). The human-animal bond is a complex relationship, and it would be logical to assume that owners may be more likely to work through a problem with their pet if they have had a longer time period to build a bond. If pets do not meet owner expectation, this will also likely be identified at the

beginning of ownership rather than after a long duration of time. Regardless of an owner's willingness to keep their cat, challenging circumstances may result in a need for relinquishment even if the owner desires an alternative outcome.

The most common reasons for potential relinquishment in this population of cats were other owner circumstances (28%, 83/298), cat medical (25%, 74/298) and owner medical (26%, 76/298). Other owner circumstances included relationship break down, job loss and lifestyle changes inconsistent with the ability to provide care to a cat. The classification of reasons for relinquishment used in the current study are similar to those used in previous studies (Amat *et al.*, 2009; Patronek, Glickman, Beck, McCabe, & Ecker, 1996; Zito *et al.*, 2016; Zito *et al.*, 2015). Zito *et al.* (2016) found that accommodation-related reasons and personal circumstances were most common in their study population, although they only obtained data for 55 relinquishment cases.

Both owner and cat characteristics have been shown to be associated with increased risk of relinquishment (Patronek *et al.*, 1996). Veterinary visits, cat behavior, source of the cat, and duration of ownership are factors which have been shown to influence the risk of relinquishment (Amat *et al.*, 2009; Patronek *et al.*, 1996). Reasons for relinquishment have been shown to be multifactorial, including challenges with cat health, behavior, housing and financial issues (Zito *et al.*, 2016). Zito *et al.* (2016) reported strong, multifactorial relinquishment reasons for 49% of cases. The common combinations of multifactorial relinquishment reasons were not reported (Zito *et al.*, 2016). In the current study, only 18% of reasons for relinquishment were reported to be multifactorial, and it is possible that we underestimated the number of multifactorial

decisions because we utilized self-reported data in a secondary dataset from cat owners and there was no opportunity to probe owners further about their situations and decision-making. Similar to Zito *et al.* (2016), these findings suggest that an owner's decision to relinquish is complex and often multifactorial.

Amat *et al.* (2009) examined risk factors for feline behaviour problems, with inappropriate elimination and aggression being the most commonly reported cat-related problems owners were experiencing. The study by Amat *et al.* (2009) focused solely on cat-related problems that the authors determined to be behavioural, therefore it is not appropriate to compare these findings to our data. There is limited research on reasons for relinquishment, and the data that do exist are predominately collected by survey (Coe *et al.*, 2014). This approach creates a gap in our knowledge of the relinquishment process, as these situations are often multifactorial and presumably more complex than surveys are capable of capturing. It is important to consider that although previous research has used similar categories to define reasons for relinquishment, the frequencies of these reasons in our study are not comparable with other findings. Differences between studies can be expected as each community is unique and pet owners may be faced with challenges unique to their community.

In our study, when multi-factorial reasons were reported to be contributing to relinquishment, in 27% of these cases an owner medical problem was combined with another relinquishment reason. Owner medical category included: allergies, chronic illness, age, limited physical ability to continue care, and owners who were being transferred to long term care facilities due to age/illness. There would appear to be little

advice or support that a non-human shelter can offer an owner who is struggling with their own health issues and is considering relinquishment. Our data support this, with a significantly smaller proportion of cats that were retained by the owner who was reporting medical concerns with themselves or a family member as the primary reason for relinquishment.

Our data suggest that cats with medical concerns were retained in the home in a significantly higher proportion than other outcomes. It is tempting to speculate that, at least in this population of cats, that information or guidance provided by shelter staff regarding management of some of these issues may have allowed owners to reconsider and decide against relinquishment. No other studies have examined relationships between reasons for potential relinquishment and outcomes for cats.

Previous reports have speculated that scheduling intake appointments 5-7 days in advance of relinquishment allows time for owners to reflect and take independent actions for rehoming their cats (Karsten, n.d.; Humane Canada, 2018). Our data show that for cats that had scheduled appointments to be relinquished, the time to relinquishment was the shortest for relinquished cats, at a mean of 15 days. This was significantly lower than the relinquishment wait for cats in the unknown outcome category who had a mean wait for 26 days. A longer relinquishment waiting period could have provided owners with more time to independently rehome their cats or seek solutions that may have resulted in the cat being retained in the home. The mean waiting period for cats who were relinquished may have been short enough for owners to wait out relinquishment as an outcome, without actively pursuing other options during

the waiting period, or may reflect the urgent need for relinquishment in some circumstances. Of 298 cats included in this study 43% (129/298) had unknown outcomes. For cats in the unknown category, 37% (48/129) had relinquishment appointments that owners did not follow through with and they did not contact the shelter to provide information about what decisions they made with their cat. Information about options considered by owners were only available for 49% (63/129) cats in the unknown outcome category. The large number of cats with an unknown outcome is a major limitation, and the lack of information from owners on what options they were considering limits our ability to speculate what outcomes may have occurred for these cats. Only 9.5% (6/63) of owners of cats with an unknown outcome indicated that they were considering keeping their cat, and 25.3% (16/63) indicated that were considering re-homing.

Owners who had a longer wait until their relinquishment appointment may have used this time period to take independent action and may have successfully rehomed their cats before their relinquishment appointment. A longer wait until their relinquishment appointment may have given more owners time to further consider their decisions to relinquish their cat, leading them to the decision of keeping their cat and working through the challenges. For cats with unknown outcome, it could be assumed that their owners were less motivated to relinquish, or they became frustrated with the length of waiting time and did not communicate further with the shelter.

At the GHS, a staff member follows up with all potential relinquishment cases and attempts to record outcomes where possible. Regardless of how intake is

managed, this population of cats and owners is a unique group which could be studied further in order to measure the potential welfare impact of situations in which owners are reaching out to shelter for assistance and not following through with any relinquishment decisions. Due to stigma bias, the GHS may not be receiving updates for cats whose owners chose to euthanize or abandon them. It is possible that cats in the unknown outcome group had undesirable outcomes that were not reported to the shelter because owners did not want to be judged for their choices.

### **2.5.1 Limitations and direction for future research**

Data was collected from the GHS database, and the researchers did not have primary contact with cat owners. The information provided was self-reported by owners to shelter staff and may be heavily biased because it was self-reported. This study used secondary data and was not directed by a standardized method of data collection. The GHS uses a standard form to collect relinquishment information; however, the level of detail provided could have been influenced by willingness of the owner to share information with GHS and the duration of time that was available for the staff to communicate with the cat owner. Only one shelter was examined in this study. In future, further studies could obtain a larger sample of shelters.

Directions for future research could include exploration related to the type of information that is being provided to owners to deter admission to a shelter. For example, shelters may be commonly providing behavioural advice, recommending veterinary care, referring to local rescues or recommending safe methods of rehoming. Recording the types of information provided and following up with clients to gather

outcomes would provide needed information to understand the impact of education on independent rehoming efforts. A focus on owner education relating to what options are available to them and what options owners are commonly willing to explore could help better inform how shelters communicate with clients who will potentially need to relinquish their cats. Supportive efforts may result in a further decrease of shelter intake and could lead to better ownership practices.

Efforts to obtain unbiased reports from owners about options that they are considering or following through with are needed to gain reliable and valid information about outcomes for animals that are not being admitted to shelters due to managed intake. Qualitative research approaches in these areas could provide owners with the opportunity to share their experiences. Collecting primary data via interviews in non-judgemental environment could increase willingness to share details about opinions and experiences compared with obtaining information through a shelter, which may be heavily affected by stigma bias. Accurate and detailed reports of the challenges owners are facing when independently rehoming their cats and how their cats may be affected during the time they are waiting to be admitted to a shelter would be very valuable. It is important to determine the prevalence of any negative outcomes that are occurring in the population of cats whose admission to a shelter is deferred.

## **2.5.2 Conclusion**

Capacity for Care is a shelter population management model that had been shown to improve welfare conditions for cats in shelters (Humane Canada, 2018; Karsten *et al.*, 2017) however, the effect that managing intake has on the cat community

broadly has not been previously studied. Findings of the present study suggest a large proportion of cats are not coming into the shelter and that the shelter is not receiving follow up information about outcomes for this group of cats. For cats with known outcomes, the data show no evidence that owners are selecting negative outcomes for their cats, but this may be largely subject to self-reporting bias. If owners are interested, the GHS educates owners about addressing cat-related issues before making the decision to relinquish, which may explain the associations between reasons for relinquishment and outcome in this population. To the best of our knowledge, this is the first study to examine the effect of relinquishment wait times on outcomes for cats. Cats who were relinquished had a significantly shorter wait time compared with cats whose outcome was unknown. Future directions for research should focus further on understanding how waitlists affect cats and their owners, and how owner education contributes to cats being retaining in their households. Another direction for future research would be examining the experiences and perceptions of staff members who work in shelters practicing C4C.

## **2.6 Acknowledgements**

The authors would like to thank Melissa Stolz of the Guelph Humane Society for her contribution to data collection.

## **2.7 Disclosure of Interest**

Shane Bateman is currently a member of the Board of Directors at the GHS but receives no financial gain from this role and as a board member has no influence over the decisions of the Executive Director regarding research activities that take place with the shelter. Samantha Hobson is employed at the GHS as an Animal Care Attendant. This position has no influence over scheduling relinquishments or research activities. Lisa Veit, Associate Director of the Guelph Humane Society was an external coinvestigator for this research. The authors alone are responsible for the content and writing of this article.

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### **3 Shelter worker's experiences and perceptions of Capacity for Care (C4C)**

Formatted for submission to the Journal of Applied Animal Welfare Science

#### **3.1 Abstract**

Capacity for Care (C4C) is a shelter management strategy which utilizes managed intake to control shelter cat admissions. Managed intake, along with other C4C strategies, aims to maintain populations at or below the capacity at which a shelter is able to provide optimal care and services to cats in their facility. Shelter intake is often managed through waitlists, scheduled relinquishment appointments, and by educating cat owners about alternatives to relinquishment, such as rehoming independently of the shelter or seeking professional advice to manage cat related issues to increase the likelihood that a cat could be retained by their owners. The purpose of this study was to 1) understand staff experiences using managed intake, 2) explore staff perceptions of how the C4C model has been regarded by other staff at their facility, and 3) explore the response of community members who are attempting to relinquish their cats, as perceived by the staff who are communicating with cat owners and scheduling relinquishment. Participants recruited from shelters who practiced C4C participated in a semi-structured interview and completed a short written survey to share their experiences and perceptions of C4C. Based on the perceptions of the participants, evidence suggests the waitlist may decrease the admission of owned cats to the shelter as a result of advising cat owners about alternatives to relinquishment. The findings of

this study suggest that more research is needed to understand potential impacts of managed intake, as an element of C4C, on the welfare of cats in the community who are waiting to be admitted to a shelter.

**Keywords:** Capacity for Care, managed shelter intake, cat relinquishment, qualitative research, semi-structured interviews

## 3.2 Introduction

Capacity for Care (C4C) is shelter population management strategy that is becoming increasingly popular across Canada, and internationally, for the welfare benefits that result from its implementation (Humane Canada, 2018). One aim of C4C is for shelters to operate at or below a predetermined capacity that is unique to each facility and focuses on improving housing quality and live outcomes for cats. Limited research exists to evaluate C4C and the impact it has on the wellbeing of sheltered cats. Karsten *et al.* (2017) evaluated three pilot shelters who implemented C4C, reporting a significant decrease in euthanasia rates and length of stay (LOS) for cats in these shelters. Additional research has focused on changes in intake and LOS post-implementation (Janke, Berke, Flockhart, Bateman, & Coe, 2017; Janke *et al.*, 2018). Janke *et al.*, (2018) examined the impact of C4C on admission trends to a shelter which practices C4C and reported a 24% decrease in the intake of cats over 6 months old. The data showed strong seasonal peaks in kitten admissions and found that there was no significant difference in annual adult cat admissions when controlling for kittens under 6 months. The same shelter also experienced a 24% decrease in LOS (Janke *et al.*, 2017) following implementation of C4C practices. The limited body of research on C4C suggests that the program is effective at improving cat welfare in-shelter, although previous studies have focused on indirect indicators of welfare including LOS, rates of adoption, average isolation population, and euthanasia rates.

To adhere to C4C guidelines, shelters manage their intake based on their in-shelter population, and accept new admissions as they are able to accommodate them

(Humane Canada, 2018; Karsten, n.d.; Karsten *et al.*, 2017). If the population is nearing capacity, intake will be slowed until more space becomes available to accommodate new admissions. Strategies for managing intake can include waitlists, scheduled relinquishment appointments, suggesting alternative rehoming options, and educating owners to encourage cat retention in the home where possible (Humane Canada, 2018; Karsten, n.d.). Considering the experiences of shelter staff and individuals surrendering a cat when evaluating the impact of C4C is important for more broadly understanding the impacts C4C beyond the animals involved. A small non-peer-reviewed case report published by Humane Canada (2018) contains a limited perspective on the impact of managed intake on shelter employees, and to date no research has explored the direct experiences of individuals that encounter a shelter that has implemented managed intake strategies as part of C4C.

It is important to consider the experiences of shelter staff and clients when evaluating the impact of C4C. Exploring client experiences poses challenges for participant recruitment, due to the challenging circumstances that typically surround the decision to relinquish a pet, such as housing challenges, financial stress and illness. Individuals may also be reluctant to share their experiences out of concern that they will be judged for their decisions to relinquish their cat. For these reasons, the current study focused on shelter staff. This information is valuable due to the barriers that would be present for collecting data from members of the public who are attempting to relinquish a cat to a shelter, and it provides direct information on the experience of shelter staff with C4C. The objectives of this study were to explore: 1) staff experiences using

managed intake, 2) staff perceptions of how the C4C model has been regarded by other staff at their facility, and 3) the response of community members who are attempting to relinquish their cats, as perceived by the staff who are communicating with cat owners and scheduling relinquishment.

### 3.3 Methods

The research protocol was reviewed and approved by the University of Guelph's Research Ethics Board for the involvement of human participants (18-24-007).

Participants were recruited via an email circulated to Canadian humane societies who belong to a national shelter organization and who practice aspects of Capacity for Care. Any staff member from a participating shelter who was involved in cat intake was invited to participate. This included intake coordinators, animal care attendants, animal care managers and client service representatives. Participants were given the opportunity to ask questions about the research prior to providing their written consent, and again prior to the interview. Following an informed consent process, participants shared their experiences and perceptions of managed intake as part of C4C through a written survey and a phone interview with a member of the research team (SH). The methodology was piloted using five participants from a shelter that was not included in study and interview questions were modified based on feedback to improve clarity and understanding of questions.

#### *Survey Design*

Participants completed a survey that allowed them to share what elements of C4C are used in the shelter where they are employed (Appendix A). The survey included nine questions made up of short answer and Likert scale type questions. Short answer questions may have been answered in a few words or a short paragraph. Participants were asked to rate the difficulty of C4C implementation on a 10-point scale.

Participants were also asked to rank their level of agreement with C4C being beneficial for their shelter, cats in their care, shelter workers, and the community.

### *Telephone Interview Guide*

The interview contained 3 primary questions, with several prompting questions to promote the participant to share their thoughts and opinions (Appendix B). The interview was semi-structured with open-ended questions used to guide a constructive conversation about the participant's experiences with C4C, how they believe it is perceived by their colleagues and how they perceive it is viewed in their communities. A question guide was used by the interviewer to prompt discussion of managed intake as a key element of C4C. Questions were constructed to encourage participants to share their experiences with the benefits and challenges of managed intake as part of the C4C model. The questions were also designed to address perceptions of C4C among shelter staff members, and possible challenges that are being experienced when managed intake is implemented as part of the C4C model.

Interviews were transcribed verbatim using commercially available computer software programs (Microsoft Word, Version 16.31, Microsoft Corporation, and Quick Time Media Player, Version 10.5, Apple Incorporated) by a member of the research team.

### *Data Analysis*

Participants received a copy of their transcript to verify their data and were allowed to identify verbatim quotes they wished to exclude from publication. The

interview transcripts were analyzed by the graduate student researcher (SH), using commercially available software (NVivo, Version 12, QSR International). Thematic analysis was chosen in order to obtain a rich description of the data (Braun & Clarke, 2006). The transcripts were reviewed on multiple occasions before beginning analysis. Inductive coding was used to identify themes in the transcripts. Surveys were analyzed for themes and a descriptive summary of responses was created. Codes were created to highlight information that was shared by participants. The codes were used to identify patterns and themes, resulting in six final themes. Themes were named according to the information that was described by the codes which were included in each theme. The same coding system was used for participants who began working in a shelter before, during or after the implementation of C4C. An extract from a transcript could fall into one code, or many. Public perception of shelter responsibilities was coded independently of challenges that resulted from communication with the public. References to public perception of shelter responsibilities differed from the challenges experienced with the community and the community's response to C4C. Codes were used to identify themes that were identified for further examination. Themes were analyzed on an interpretive level in order to theorize meaning behind the patterns and key themes (Braun and Clarke, 2006). Questions from the guide were intentionally not considered themes as the question were intended to prompt the participants to share their experiences using managed intake, to share perceptions of how the C4C model has been regarded by other staff at their facility, and to share their perceptions on the response of community members who are attempting to relinquish their cats.

### 3.4 Results

#### *Participants and survey responses*

A total of 7 participants from 5 Canadian shelters were recruited. Shelters were excluded from participation if they did not manage the intake of cats into their facility. Six participants began working at their respective shelters before C4C was implemented and one had started after implementation had begun. Two staff members learned about C4C from shelter medicine experts who developed the program. Two staff members learned about and received training on C4C through online modules and with support from senior staff members. Three staff members learned about C4C through discussions with other staff members and seminars. Participants indicated that all five of their respective shelters used surrendered appointments to manage their intake, three shelters used a formal waitlist process, and three indicated that they manage their intake of healthy stray cats. All participants indicated that their shelters had a TNR program, and four shelters used a working cat program. All shelters were using portalized cages, and providing hiding boxes or curtains for their cats. Participants also indicated that four of the five shelters used fast-tracking to move highly adoptable cats immediately into their adoption rooms.

The median perceived difficulty of implementing C4C ranked by participants on a 10-point Likert-type scale was 5 (min 3, max 9). All seven participants reported communication surrounding changes as a major challenge of C4C. Four participants specified that gaining support from staff was a major challenge, and five participants

reported the challenges as coming from the public. One participant offered that a lack of finances hindered the shelter's ability to make further desired changes. All participants either agreed or strongly agreed that implementing C4C was a positive change for their respective shelters, for shelter staff and for the cats in their care. Six participants agreed or strongly agreed that C4C resulted in positive change for the community, and one participant indicated that they felt neutral towards C4C being a positive change for the community.

### *Interviews*

Inductive coding resulted in 16 codes that were used to analyze the interview transcripts (Appendix C). These codes outlined five themes related to the participant's experiences and perceptions of C4C; a shift in the way of thinking about sheltering, awareness of cat outcomes, desire to improve welfare, concern for wellbeing, and sources of challenges.

### **A shift in the way of thinking about sheltering**

The challenge of changing viewpoints was a strong theme present in all participant interviews. From the transcripts, codes that contributed to this theme were public perception of shelter responsibilities to the community, support of C4C, understanding of C4C, differences in opinions between staff members, and differences in shelter thinking. Excerpts from the transcripts support the idea that changing thinking can be challenging within the shelter, for cat owners and for the public.

Public perception of shelter responsibilities contributed strongly to the theme of a shift in thinking. All participants made reference to public perception of shelter's responsibilities, and the disconnect between public expectations of shelters and the protocols that they have in place to serve their communities. Some participants perceived that the public has an unrealistic expectation that shelters should take responsibility for all animals in their community. Participants also expressed that using managed intake places more responsibility on cat owners to find solutions independently, which was regarded as a benefit of C4C by staff members who participated in this study.

P1 *"... it also pushes the owners to umm, ya know, really look at rehoming the pets themselves."*

P6 *"Because, obviously we're asking people to kind of hold onto the cats, or think of other avenues to you know, uh, look after... to get someone else to look after the cat or put the onus on them to try and think of, you know, solutions as well, is working out better."*

P3 *"A lot of people haven't... from my point of view I see that this is your animal, and this is your responsibility, there's a couple options out there for, but it is in full your responsibility to find that animal a home."*

Differences in opinions of staff members were reported by six participants. Participants reported conflicting opinions in regard to the presence of hiding places, adoptability evaluations, deferring intake when there are empty cages, and the return to field program. Change within shelter thinking was also referenced by all but one

participant. Overall, participants reported an increased level of support for C4C overtime, once they could see that the program was beneficial.

*P2 "I think um, everybody was a little bit skeptical in the beginning because it just seemed a little bit too good to be true."*

*P3 "Um, so, I think that it was definitely hard for some people to get on board when it first started just because you know, some people have been here for 20 years, 15 years, 10 years, and so it's hard I think for a lot of people in general to have change so there was some ya know, just kind of not understanding as to why we aren't taking these animals we used to."*

Understanding of the processes and benefits associated with C4C was referenced by five participants, with three participants commenting on a perceived lack of understanding by other employees. A perceived lack of understanding was thought by participants to be remedied by explaining the rationale behind the program and further education. Participants supported continuing staff education to ensure that new staff members are educated about the concepts of C4C, and that all staff are made aware of the benefits of the program. Support for capacity for care was a strong theme present in all seven transcripts. It appears that the participants unanimously found C4C to be beneficial to their respective organizations and support the continued use of the program. Participants also reported that the public was able to see the positive changes in the shelter. Members of the communities responded positively to the housing improvements, availability of staff to provide assistance, and showed understanding for the reasoning behind managing intake to improve the care for cats.

P7 *“Since we started managed intake, at first it was difficult for people to understand why we could not take a cat when the public called or came in. But the public did learn that that’s what best for the animal and since we’ve done it, our adoptions [inaudible] they’ve gone up.”*

P4 *“We got approval from the community and also from co-workers, and we can see how [much] happier our animals... our cats are after implementing the C4C. We only [have] had positive results so far from it.”*

Participants believed that their colleagues supported C4C and that their shelters benefited from the program. One concept that was not well received by staff was managing intake when there was empty cage space in the shelter. Staff members found it difficult to defer shelter admission for cats when cages were vacant and deny immediate admission in this circumstance.

P7 *“They did think that, you know, that we shouldn’t turn people away or if we’ve got empty cages, we should keep filling them.”*

P5 *“Some people, they will say, you don’t have that many animals in the rooms, why can’t you take this particular animal.”*

### **Concern for wellbeing**

Concern for wellbeing was another strong theme, generated from the three codes that contributed to the theme; animal welfare, owner concern for cat, and staff wellbeing. All participants referenced animal welfare in their interviews. Further all participants commented on cat stress or illness in relations to overpopulation, and how C4C has helped improve conditions for shelter cats in their facilities. Reduced stress

and prevalence of upper respiratory infections in shelter cat populations as a result of C4C was praised by participants. Length of stay was also referenced by all participants. Three participants clearly expressed a perceived reduction in the LOS of cats as a result of C4C. The other four participants referenced LOS in regard to a desire to have cats in the shelter for shorter periods of time and valued a system that efficiently moves cats through the shelter. Improved housing, more frequent socialization, improved sanitation and the value of having a plan to progress cats to adoption were also referenced.

P1 *"I think that fact that animals are getting adopted more quickly, um, LOS is um, ya know, single digits. I think it's probably around 3 or 4 days right now. Umm... that I think helps. Um, because I think staff feel that they are really truly helping these animals get to where they need to be."*

P4 *"Length of stay of the cats was decreased a lot because now we know what we have on the floor and what we need, and we provide that so they arrive at the shelter and it can be planned, and they get out of here faster than before."*

P5 *"When they're stressed out they get sick and it's a stress from the financial aspect of them being ill as well, so we're trying to combat different obstacles by having a decrease number of animals in a shelter setting."*

P6 *"Beneficial for the cats, as well. Since we've started using the larger kennels for the cats, that have portals, um, we see our cats less stressed than they used to be. And, as well, less, definitely less upper respiratory. I don't recall the last time we had an outbreak of upper respiratory."*

Factors contributing to staff wellbeing were commonly mentioned in the interviews. Improved welfare and a decrease in euthanasia after the implementation of C4C were beneficial to staff members. Staff also reported being less overwhelmed as a result of managed intake, expressing that managing the in-shelter population improved their work environment. Stress is perceived to have been reduced due to the ability to provide better care to cats, and an increase in the level of organization involved in managing cat populations from intake to adoption, compared to before the implementation of C4C.

*P4 "Everybody was stressed out trying to take care of them and all the URI [upper respiratory infection] outbreaks we had, summer and spring was incredible. And now um, the sort of limited intake and scheduling that, everybody seems more relaxed and now we know we're taking care of them animals the way they should be taken care of."*

*P4 "Now we have more space for the animals, now we are less stress[ed] out with the amount of work we need to it."*

Staff members perceived owners to be concerned for the wellbeing of their cats, should they choose to relinquish them to a shelter. Four participants from three different shelters reported that owners are primarily concerned about their cat being euthanized if they were relinquished to the shelter and inquired if a "time-up" policy was in place. One participant from a fourth shelter stated that cat owners who are considering

relinquishment are concerned that they are unable to continue to provide adequate care for their cats.

P1 *“The number one thing I think when people are surrendering, the number one question is how long do you hold the animal before you euthanize them.”*

P5 *“They are just concerned that they can't like, take care of the animals appropriately, financially. There are times when people are losing their homes, or they are moving.”*

### **Desire to improve Welfare**

The desire to improve welfare emerged as a theme in the data and was present in all transcripts. The first code that in all transcripts contributed to this theme was “positive change”. Participants valued positive changes that resulted from C4C, such as a perceived reduction in cat stress and illness. Increases in live outcomes for cats, increases in adoption, an improved housing environment and alternative rehoming options for feral or under-socialized cats contributed to positive change. This code overlapped considerably with “animal welfare”, contributing to the theme of concern for wellbeing. Participants commented on improvements of intake and adoption protocols, such as the addition of trap-neuter-release and working cat programs. Increased organization and managing intake were regarded as a positive change due to the benefits experienced by sheltered cats and staff. A major benefit of increased organization was the efficient flow of animals through the system.

P7 *“And also for managed intake with the owner surrenders, we know what is coming in ahead of time. We also too, will know, the most important thing for our veterinarian, that*

*she will know if it's (a) an adult cat, and she will know if we have proof of vaccination we will fast track that cat straight to the adoption floor so it's less on that cat."*

*P6 "Cause now it's, everything is manageable, everything is under control, which wasn't the case like, years ago when we overcrowded with animals and we didn't have any like control over the intake. So now everybody perceives that it's really going well and going to the right pathway and wanting to keep the way it is and even to improve our services, get our better communication with the community and all that. So, everybody is on the same page, everybody is."*

The second code that contributed to this theme was future goals. Two participants from different shelters commented on areas where they felt their organizations could improve in future in relation to C4C. First, there was a desire to increased promoting of programs for rehoming under-socialized or feral cats and addressing by-law issues in their community that restrict these cats from living outdoors in the area. Second, increasing the size of individual cages so that cats can have more space, and further improving housing as per C4C guidelines.

### **Awareness of Cat Outcomes**

Awareness of cat outcomes was a theme coded by waitlist, rehoming and the unknown. Waitlists, as recommended by the C4C program, were perceived to give owners the opportunity to try other options before relinquishing their cats. Other rehoming options were praised by one participant for the opportunity to avoid admission to the shelter causing less stress on cats who can be rehomed by their owners.

P3 *“And then for people whose animals don't come into the shelter, if they can find their animals going from a home to another home, and not even having to go into the shelter system, I think that's a lot less stress for the animal. I think that's also a good part of the program.”*

P3 *“So we're getting a couple days in for them, and I would say half or more than half of my appointments that I book for a couple days out, they do not show up. So, they find other options. They are very panicked I think, when people call me. So, they're either, something has just happened, or they haven't asked anyone else, or they haven't gotten a response from anyone and generally they find their own solution before they come in for their appointment.”*

One participant believed that people who called the shelter to relinquish their cat commonly have already tried other outlets and rely on the shelter as a last resort.

P5 *“In most, in some situations, when people come in, some of them have tried family members. Uh, they couldn't give the animals to a family member, we're kind of like that last resort. Like sometimes they will yell at the staff and sometimes they will threaten to kill the animals, so it's not going well from that aspect.”*

When asked what outcome they perceive to be occurring for cats whose intake to the shelter is deferred, two participants expressed concerns that people may be choosing to abandon their cats and a third participant suspects that people bring them in claiming they are stray. When participants were asked what outcomes they believed were occurring for cats who had relinquishment appointments but were never relinquished to the shelter, participants believe that owners do either rehome cats themselves, find another organization that can offer admission, or decide to keep their cat, but the frequency of these occurrences remain undetermined.

## **Sources of challenges**

Sources of challenges surrounding managed intake was a theme that was directed by the question guide, with contributions that occurred organically in the interview. This theme was coded as a result of contracts or bylaw, community related, and in shelter. Challenges that resulted from the implementation of managed intake as an element of C4C provided opportunities for communication, giving staff members the opportunity to educate community members about the welfare benefits of managing intake into a shelter. Communication opportunities were referred in three sub-codes; staff education, public communication and cat owner communication.

Two participants from different shelters reported that managing intake while maintaining contracts with municipalities was challenging. These shelters are contracted to take in strays from their community, thus they are unable to control intake from this population of cats. A third participant shared that the by-laws in their area prohibit free roaming cats, which prevents the release of cats through trap-neuter-release programs.

*P1 "Again, like I said, if you've got animal control contracts, you're contracted to take in those strays so we can't say we're only taking in five cats today. You know, we might get 30, so we always to keep that in the back of our head. But um, managed intake is a good way to really monitor your capacity."*

*P4 "Challenge[s], I believe is still being the return to field cats that we get. Because of the bylaws that prevent cats to run free and the return to field program encourages that, right."*

The negative response to managed intake from the community presented a challenge for participants and their colleagues. Cat owners attempting to relinquish a cat were perceived to have responded poorly when they were informed that they would need to schedule an appointment to relinquish their cat or be placed on waitlist. Explaining the reasoning behind managed intake was a challenge because members of the public expect that their cat would be admitted immediately. Participants described improvements in public response, as a result of education and consistent communication from shelter staff, that the goal of managed intake was to care for sheltered cats more effectively.

*P3 "In house, um, but it does make peoples conversation a bit harder um, because I get lots of people yelling at me as to why I can't take their animal right now, those sorts of things. So, it's bit tougher, but I know it's for the greater good and we're taking on what can manage."*

*P7 "And I think some days are worse than others, but the public are understanding. And I think we've done a lot of news releases and stuff like that, on what has taken place. Social media too is a big thing, our Facebook, we do post a lot on there as well."*

Managing intake provided participants the opportunity to advise cat owners on alternatives to relinquishment, and potential solutions to try before their relinquishment appointment. Starting a conversation with cat owners about why shelters manage their

intake was reported to improve understanding from the clients, and from the public over time.

*P1 “And a lot of the time, it's ah, for behavioral issues. So, uh, we will give the owners a brief overview of suggestions to try and being on that waitlist gives the owner an opportunity to try and work things out.”*

*P7 “Once we explain to the public why we're not able to accept an animal, I'm going to say about 75, 80 percent are very understanding as to why we can't take that cat when they walk in the doors. Especially usually what I will say is we just don't have room for this cat, and we will not euthanize a cat to make room for your cat, that really hits home with the public. They're like, ‘Oh my gosh no.’”*

Challenges in shelter were closely related to staff members having to alter their approach to managing shelter cats. In the interviews, four reported that gaining a level of agreement among staff members took time, and that some other staff members had still not fully accepted certain aspects of managing intake. Five participants highlighted concerns in maintaining empty cage space, and having walk-in relinquishments come back for a scheduled appointment. Participants reported that some staff members had a hard time turning relinquishments away when there were empty cages available that could accommodate those cats. Explaining the reasoning behind managed intake seemed to be more challenging when space was available and visible to clients attempting to relinquish cats. Interruptions to the flow of cats being re-homed due to unexpected circumstances was also a challenge reported by participants.

Challenges that arose from implementing C4C and managed intake motivated participants to continue to learn about C4C and to educate other staff members the potential benefits of implementing the program. These challenges also provided the opportunity for reflection on the positive changes that have been experienced, and the reasoning behind why shelters are continuing to manage their intake and educate the public about sheltering practices for cats. All participants felt that understanding C4C was important for staff to have a united outlook on their sheltering protocols. One participant commented explicitly that more education for staff was planned and required so that staff at that shelter have a better understanding of why C4C recommendations are in place. Overall, participants supported education on C4C and shelter practices for both shelter staff and the public.

*P1 "Uh, we do have a staff meeting coming up in [censored], a big C4C presentation so that everybody kind of understands. But, uh, some staff don't understand it, some staff do. We're very good at educating our staff on our euthanasia policy, what rescues we work with and what our um, rescue philosophy is. But C4C unfortunately we're lacking a little bit."*

### 3.5 Discussion

This study was the first to focus on shelter staff perceptions of managed intake of cats to a shelter as an element of Capacity for Care (C4C). C4C has the potential to drastically improve how shelters address rehoming and managing cat populations for the communities they serve (Humane Canada, 2017; Janke *et al.*, 2018; Karsten, n.d.; Karsten *et al.*, 2017). Within the themes of concern for wellbeing and shift in a way of thinking, participants acknowledged improvements in animal welfare at their facilities as a great benefit of C4C. A reduction in stress and illness was reported by all participants. The improved welfare of the cats had a positive impact on shelter staff, who also experienced less stress and reported being less overwhelmed since they began using managed intake to control their in-shelter population. In addition to improved health in cats, participants noted that observing an increase in adoptions was rewarding for them and having time to provide a higher level of care benefited staff as well as the cats. The improvements that participants described in their interviews are in agreement with previous quantitative studies that showed a decreased length of stay (Janke *et al.*, 2017), and a reduction in the number of cats housed in isolation due to illness (Karsten *et al.*, 2017). Some participants reported a decrease in euthanasia and an increase in adoption, which also support existing research that reported an increase in adoption and a decrease in euthanasia after C4C was implemented in three pilot shelters (Karsten *et al.*, 2017). The current study provides further evidence to suggest that C4C improves feline welfare by creating conditions which result in decreased illness.

An abundance of evidence illustrates the negative effects of dense shelter cat populations on the health and live release rates of cats (Dinnage *et al.*, 2009; Gourkow, 2001; Kessler & Turner, 1999; McCobb *et al.*, 2005; Tanaka *et al.*, 2012; Wagner *et al.*, 2018b; Wenstrup & Dowidchuk, 1999). Very little research has focused on the effect of overpopulation on shelter staff apart from demonstrating that euthanasia negatively impacts job satisfaction and the personal lives of shelter staff (Patronek & Rowan, 1995; Reeve, Rogelberg, Spitzmuller, & Digiacomo, 2005; Rogelberg, *et al.*, 2007a; Rogelberg, *et al.*, 2007b). Since overpopulated shelters have been linked with increased rates of euthanasia and decreased welfare for sheltered cats (Turner and Kelser, 1999; Gourkow and Fraser, 2006; Tanaka, Wagner, Kass, & Hurley, 2012; Wagner, Kass & Hurley, 2017), it would be logical to assume that shelter overpopulation decreases the wellbeing of shelter workers to some extent. Participants reported improvements in how they, and their colleagues, perceived the shelter environment after C4C was implemented, describing their experiences as less stressful and less overwhelming. This study provides additional evidence that C4C is effective not only at improving shelter conditions for cats, but also at improving the wellbeing of staff who work in these facilities.

Participants commented that many staff members were skeptical that C4C could improve shelter conditions so significantly. Change was perceived to be difficult for shelter staff, especially for those who have worked in a shelter long term. The survey showed that initial buy-in from staff and adjustment to changes in protocols were one of the major challenges. Evidence of this also exists in the transcripts when participants

described how maintaining managed intake when there was available cage space felt uncomfortable for some staff. None of the participants felt positive towards the need for a waitlist or relinquishment appointments, yet all participants supported managed intake as a necessary means to achieve an improved quality of care for shelter cats. Participants perceived that, over time, staff were more supportive of the changes when they were able to observe the positive results of C4C in their daily work. Although change was reported to be difficult, organizational changes that affected adoptions and the movement of animals through the facility were highly valued by staff members. Shelters should consider how to best introduce C4C to shelter staff, in order to obtain support and understanding of the program.

Participants believed that managed intake encourages cat owners to find alternative solutions for rehoming their pets themselves, which results in fewer cats being relinquished to the shelter. When participants were asked what outcomes they believed were occurring for cats who had surrender appointments but were never relinquished to the shelter, no participant expressed concern that owners were considering euthanasia. Instead, participants perceived that community members attempting to relinquish a cat frequently expressed concern for the wellbeing of their cat if they followed through with relinquishment, specifically inquiring about “time-up” policies and reasons their cat may be euthanized. Effective communication between shelter staff and the public appeared to be valued by all participants. Staff members who felt successful in educating cat owners viewed C4C as being beneficial for creating a talking point to educate cat owners about alternative to relinquishment.

Participants felt that the public has expressed strong opinions about what is expected of shelters. Participants shared that members of the public expressed frustration about not being able to relinquish their cats immediately upon request, and shared the opinion that shelters are obligated to take responsibility for all cats. There appears to be a range of community responses as participants at some shelters expressed that public frustration is ongoing, while others have experienced increasing support from their communities. Participants also shared personal challenges around their explanations to the public related to managed intake policies and gaining understanding and support from the public. Public perception of shelter responsibilities should be regarded as a challenge when implementing any shelter protocols if the public perception is based on misconceptions and lack of information on shelter practices and management. Shelters that implement C4C could make use of public education campaigns as an attempt to address misconceptions about sheltering and to explain reasoning behind intake policies.

Participants believed that managed intake was not initially well received within the communities served by participating shelters. Community response to C4C was challenging for participants when cat owners have the expectation that shelters exist to provide rehoming services to pet owners. The survey and transcripts demonstrate that negative responses from the public during early implementation had a remarkable impact on the participants. Communicating with the public was a major challenge reported in the survey, and all 7 participants referenced challenges in public response during the interview. Community perceptions of how shelters should provide services

poses a challenge for shelters when the public is not aware of the evidence behind management strategies aimed at wellbeing of sheltered cats. Managed intake provides opportunities for communication with cat owners about rehoming options, and to the public about shelter practices that improve the welfare of sheltered cats. Education was regarded as a method to improve shelter-community relations, and to support cat owners who are waiting to relinquish their cat by advising them on potential solutions to issues they are experiencing and suggestions for independent rehoming options. Well-developed educational resources could assist shelters in managing the challenges of public perceptions and expectations for relinquishment.

Education can be a powerful tool for gaining the community's trust and support. Considering that shelters are often providing several services to their communities, education is a worthwhile effort if it can result in increased community support. Based on the experience of the participants in this study, education and communication can contribute to increased understanding and support for C4C. Education is often referenced as one of the most important tools for helping owners make informed decisions about their pets and increasing pet retention in the home however, it is poorly studied and there is limited research to support the efficacy of education (Coe *et al.*, 2014). Participants in this study believed that education via conversation with owners who are considering relinquishment is effective for inspiring owners to attempt to rehome their cat independently or to use given advice to remedy problems so that cats do not need to be rehomed. More research is needed to measure the impact of education on pet owner decision making and relinquishment. Social media was

mentioned as an effective tool to communicate shelter information with the public, and also as an avenue for cat owners to utilize for rehoming independently of the shelter. Participants were optimistic that, over time, educating cat owners and the public about how managed intake benefits the cat community will grow support for shelter intake policies and C4C.

The qualitative methodology used in the analysis was able to provide new insights on staff experiences using managed intake, including how staff members are perceiving C4C and the response from community members who may be attempting to relinquish their cats. We were able to obtain information about the public perception of managed intake, from the perspective of shelter staff. This information is valuable due to the barriers that would be present for collecting data from members of the public who are attempting to relinquish a cat to a shelter. Members of the public can be experiencing a variety of negative emotions and be unwilling to share information about their experiences trying to relinquish their cat. Cat owners who are experiencing negative feelings, or who are in challenging situations in which they may not be able to describe their experiences for the purpose of research, would be difficult to recruit as participants. This would likely create a volunteer bias towards cat owners who are more understanding of shelter protocols related to relinquishment. These participants might also be experiencing fewer challenging situations compared with those who would be unwilling or unable to participate, which could result in a study population that is not representative of the true cat owner population that is attempting to relinquish their cat. Receiving information from shelter staff regarding their perceptions of how managed

intake is experienced by cat owners in their communities provided valuable information that is likely highly representative of how cat owners perceive managed intake.

### **3.5.1 Limitations and future directions**

The current study focused on the managed shelter intake of owned cats. Although stray cats were not included in the current study, future research could explore community and shelter worker perceptions of other aspects of shelter management related to C4C, such as return to owner rates and methods of tracking cats who may be homeless versus owned-outdoor cats. The response to C4C by members of the community described by the data is based on the perceptions and experiences of the shelter staff participants, and not community members directly. Future work could attempt to include input from community members to gain a firsthand account of their experience of managed intake. It would be useful to explore the impact of managed intake on cats and their owners who are placed on a waitlist, to further assess the impact of C4C beyond shelters. Response to participant recruitment efforts were not as productive as expected, and the number of participants and participating organizations was not as high as intended and is a significant limitation of this report. A greater number of participants would have increased the diversity of opinions and experiences and allowed a more robust analysis. Shelters were reluctant to participate due to the time commitment of this study, even given that the study design aimed to limit the time commitment required by participant. Response bias may have occurred if participants did not want to share negative experiences from their shelters, or interactions with

community members. C4C has been praised by the animal welfare community, and shelter staff may have been reluctant to share anything that conflicts with the positive contributions of C4C to the animal shelter system. Volunteer bias may also have occurred as a result of how participants were recruited. Shelter staff who feel strongly about C4C may have been more motivated to participate in the research.

### **3.5.2 Conclusion**

This study was the first to explore shelter workers experiences and perceptions of C4C, using qualitative methodology to gather shelter staff experiences with C4C, perception of the program and the response to managed intake from community members who are attempting to relinquish their cats. Participants approved of managed intake and the resulting benefits for cats in their care, shelter staff and for the community. Participants perceived that their colleagues were generally supportive of the C4C program, although deferring admission when available cage space is present was a challenge for some staff members. The initial response to managed intake from community members, as perceived by participants, was negative. Participants were optimistic that community perspectives on managed intake can be altered, and education was reported to be a useful tool for gaining support from cat owners and the public. This work further supports C4C as an effective management strategy for shelter cat populations, and also suggests the C4C may have a positive effect on the wellbeing of shelter staff. The findings of this study suggest that more research is needed to understand potential impacts of managed intake, as an element of C4C, on the welfare

of cats in the community who are waiting to be admitted to a shelter, on public perception of C4C and on shelter workers' welfare. The available evidence suggests that deferring intake through the use of relinquishment appointments or waitlists compromises the welfare of cats in the community who are waiting to be admitted to a shelter

### **3.6 Acknowledgments**

The researchers would like to thank the participants for their support, and contributions to this work. The researchers would also like to acknowledge Humane Canada for providing their support in aiding with participant recruitment.

### **3.7 Disclosure of Interest**

Shane Bateman is currently a member of the board of directors at the GHS but receives no financial gain from this role and as a board member has no influence over the decisions of the Executive Director regarding research activities that take place with the shelter. Samantha Hobson is employed at the GHS as an Animal Care Attendant. This position has no influence over scheduling surrenders or research activities. Lisa Veit, Associate Director of the Guelph Humane Society, was an external coinvestigator for this research. The authors alone are responsible for the content and writing of this article.

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## 5 Appendices

### Appendix A: Written Participant Survey

Participant number \_\_\_\_\_

#### Capacity for Care (C4C) Survey

**Please select the response the best describes when you began working at the shelter in regard to C4C. To check boxes, double click on the box you wish to select. This will pull up a small window, change the default value to “Checked”.**

- Before C4C was implemented
- During the implementation of C4C
- After C4C was implemented

1. How did you learn about C4C?

2. Describe the training you received regarding C4C?

3. Who provided the training?

4. Please select the elements of C4C that are used at your shelter. Select all that apply.

**To check boxes, double click on the box you wish to select. This will pull up a small window, change the default value to “Checked”.**

**Managed Intake**

Surrender appointments

A waitlist

Restricted intake of healthy strays

Other, please explain.

**Adoption / Rehoming**

- Categorical pricing
- Adoption events
- Simple adoption applications
- Conversational adoption meetings
- Working/ barn cat program
- TNR
- Other, please explain

- Fast tracking cats to adoption before their stray period is over
- Portalized cages (litter separate from resting area)
- Hiding boxes or curtains
- Other, please explain.

5. Were any of these elements already in practice before the implementation of C4C? If yes, please list them.

6. Have there been any modifications to the suggested elements of C4C? Please explain.

7. How difficult was the implementation of C4C on a scale of 1 to 10? With 1 being perceived as the easiest a strategy could be to implement, and 10 being the most difficult. Please select one.

1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>	8 <input type="checkbox"/>	9 <input type="checkbox"/>	10 <input type="checkbox"/>
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8. What were the major challenges of implementing C4C?

9. For the following statements, please select the descriptor that fits best with your view.

Staff are convinced that implementing C4C is a positive change;

a) For the shelter?

<b>Strongly Disagree</b> <input type="checkbox"/>	<b>Disagree</b> <input type="checkbox"/>	<b>Neutral</b> <input type="checkbox"/>	<b>Agree</b> <input type="checkbox"/>	<b>Strongly Agree</b> <input type="checkbox"/>
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b) For employees?

<b>Strongly Disagree</b> <input type="checkbox"/>	<b>Disagree</b> <input type="checkbox"/>	<b>Neutral</b> <input type="checkbox"/>	<b>Agree</b> <input type="checkbox"/>	<b>Strongly Agree</b> <input type="checkbox"/>
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c) For cats in your care?

<b>Strongly Disagree</b> <input type="checkbox"/>	<b>Disagree</b> <input type="checkbox"/>	<b>Neutral</b> <input type="checkbox"/>	<b>Agree</b> <input type="checkbox"/>	<b>Strongly Agree</b> <input type="checkbox"/>
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d) For the community?

<b>Strongly Disagree</b> <input type="checkbox"/>	<b>Disagree</b> <input type="checkbox"/>	<b>Neutral</b> <input type="checkbox"/>	<b>Agree</b> <input type="checkbox"/>	<b>Strongly Agree</b> <input type="checkbox"/>
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## Appendix B: Participant Interview Question Guide Interview Question Guide

1) What are your thoughts on the impact of managed intake when used as part of Capacity for Care (C4C)?

- a) What do you see as beneficial?
- b) What do you see as challenging?

Participants will be asked either c) or d) based on whether they began working at their shelter before, or after the implementation of C4C.

c) From what you have heard about how the shelter operated before C4C describe what challenges you perceive to have taken place since implementing C4C?

**OR**, for shelter staff who have worked at the shelter since before C4C was implemented;

d) How has your daily work changed since C4C was implemented?

2) How are other shelter staff members perceiving C4C, especially managed intake?

- a) What aspects are viewed positively by other staff members?
- b) What aspects are viewed negatively by other staff members?
- c) Have you or your team experienced any challenges due how intake is managed in your shelter or due other aspects of C4C?
- d) How would you describe the agreement among your colleague's viewpoints regarding C4C?
- e) Do you believe the level of agreement is tied with job role?

3) How is C4C, and especially managed intake, being perceived by community members who are attempting to surrender a cat?

- a) What sorts of concerns, if any, have clients expressed?
- b) How has your team addressed their concerns?
- c) What's your perception of the outcome for cats that, after initial contact for relinquishment, never enter the shelter?

## Appendix C: Coding for Thematic Analysis

Table 1: 16 Codes and 5 Themes for Analysis		
Community Related	Sources of Challenges	Staff Experiences, perceptions and community response to Capacity for Care
Contract or By-law		
In-shelter Challenges		
Communication Opportunities (Sub-categories) -Staff Education -Cat owner communications -Pubic communications		
Animal Welfare	Concern for Wellbeing	
Staff Wellbeing		
Owner concern for relinquished cat		
Rehoming	Awareness of Outcomes	
The Unknown		
Waitlists		
Provision of Care	A shift in the way of thinking	
Motivation		
Companionship		
Emotion- attachment		
Future Goals	Desire to improve welfare	
Positive Change		

