Preventive Veterinary Medicine 157 (2018) 44–49

Contents lists available at ScienceDirect

Preventive Veterinary Medicine

journal homepage: www.elsevier.com/locate/prevetmed

Assessment of canine health and preventative care outcomes of a community medicine program

Megan Kiely Mueller[a,b,c,*], Stephanie Chubb[a], Gregory Wolfus[a], Emily McCobb[a,b]

[a] Department of Clinical Sciences, Cummings School of Veterinary Medicine at Tufts University, 200 Westboro Rd, North Grafton, MA 01536, United States
[b] Center for Animals and Public Policy, Cummings School of Veterinary Medicine at Tufts University, 200 Westboro Rd, North Grafton, MA 01536, United States
[c] Jonathan M. Tisch College of Civic Life at Tufts University, Medford, MA 02155, United States

ARTICLE INFO

Keywords:
Accessible veterinary care
Preventative care
Dog
Dog health

ABSTRACT

The objective of this study was to assess if use of a community based veterinary medical program (the Tufts at Tech Community Veterinary Clinic) was related to indicators of canine health and well-being in a low-income community through the provision of low-cost preventative care. Participants were 177 low-income dog owners; 63 were repeat wellness/preventative care clients of the Tufts at Tech clinic, 46 were new or urgent care clients of the Tufts at Tech clinic, and 68 were a comparison sample of owners who had not used the clinic but did attend an outreach clinic in a community setting. Participants were asked to complete a survey that assessed owner demographic information, indicators of canine health and quality of life, pet attachment, and barriers that limit access to veterinary care. Results indicated that clients of the Tufts at Tech clinic were more likely to be White/Caucasian and female. In addition, there were significant positive differences on several indicators of canine health and preventative care for the Tufts at Tech wellness clients including monthly heartworm use ($p < .001$), use of veterinary services for both wellness ($p < .001$) and illness/injury ($p = .001$), and vaccination status ($p = .003$). There were no significant differences in spay/neuter status ($p = .48$), use of flea/tick preventative ($p = .17$), use of obedience training ($p = .75$), problem behaviors ($p = .05$), canine quality of health ($p = .74$) or attachment ($p = .63$). The Tufts at Tech clients reported lower rates of several barriers to accessing care, including cost. These findings provide important information regarding who is using low-cost clinics such as the Tufts at Tech model, the potential benefits of repeated preventative care on dog health, and suggestions for reducing barriers to accessing veterinary services.

1. Introduction

In the context of the rising costs of healthcare, increasing attention is being paid to the racial, ethnic, and socioeconomic disparities that exist with regard to access to high quality human health services, especially related to preventative care (Adler & Rehkopf, 2008; Kelley et al., 2005). Many low-income and minority communities are particularly underserved due to a lack of primary care services (Dotinga, 2012). Increasingly, the medical community is recognizing the need to address care disparities (Fischella et al., 2000) and is providing targeted training programs for medical students (Lunn & Sanchez, 2011). Community health centers that provide low-cost preventative and primary care are playing a role in addressing these care gaps (Politzer et al., 2001).

Many of the same issues of access to and affordability of quality healthcare likely exist for animal populations in low-income communities. Existing research exploring the impact of affordability in veterinary care has found that pet owners with lower incomes (less than $35,000 a year) or who are unemployed were less likely to have taken their pet to a veterinarian within the previous year (Volk et al., 2011). Lower income pet owners have been found to be more likely to make veterinary care decisions based on price, and both low and high income owners often report the perception that veterinary care is very expensive (Lue et al., 2008). Many owners feel challenged by addressing cost barriers with their veterinarians (Coe et al., 2007), particularly when owners have difficulty affording the necessary or recommended care. These findings suggest that there may be a portion of the pet-owning population who is unable to access care for their animals due to cost.

Given these disparities, a key task in improving the status and welfare of pets, specifically dogs, in society is addressing the issue of promoting canine health and welfare in underserved communities.

Abbreviations: QOL, quality of life

* Corresponding author.
E-mail address: megan.mueller@tufts.edu (M.K. Mueller).

https://doi.org/10.1016/j.prevetmed.2018.05.016
Received 1 February 2018; Received in revised form 23 May 2018; Accepted 27 May 2018

Such communities often do not have access to affordable veterinary care options, or education about fostering optimal welfare for their dogs. Although there are similarities between human and animal healthcare disparities within underserved communities, very little research has focused on documenting or addressing such disparities (Patronek, 2010). The implementation of low cost spay/neuter programs has been successful in reducing canine overpopulation (Frank & Carlisle-Frank, 2007; White et al., 2010). However, many of these programs do not include other aspects of routine preventative veterinary care and husbandry, and illness is often cited as a factor for canine relinquishment to shelters (Kass et al., 2001). Capitalizing on low-cost, community health models that have been successful in human healthcare settings may be an effective method of addressing access to veterinary care (particularly preventative care) in underserved canine populations, but there is little empirical research on assessing such models, particularly in the United States (LaVallee et al., 2017).

Through a partnership with the Worcester Technical High School in Massachusetts, Cummings School of Veterinary Medicine at Tufts University has spearheaded the Tufts at Tech Community Veterinary Clinic, which provides subsidized veterinary care to low-income pet owners with documented need in the Worcester, Massachusetts area (McCobb et al. 2017). The clinic also provides both vocational training for high school students as veterinary assistants and training for veterinary students in primary care. Through this integrated educational model of community veterinary care delivery, Tufts at Tech is a means to effectively improve the health of pets in the community through direct provision of veterinary care. While about two thirds of the clients come to Tufts at Tech seeking assistance with an urgent medical problem for their pet, a portion of these and the remaining clients receive preventative care services (McCobb et al., 2017). About 40% of the clients at Tufts at Tech bring their pets to Tufts at Tech for annual wellness care, which includes vaccinations and parasite prevention (McCobb et al. 2017).

This study aimed to assess the effectiveness of Tufts at Tech's educational model of community-based veterinary medicine by quantifying if use of the clinic was related to indicators of canine health and well-being in an underserved community. Through survey data, owners were asked to report on their dogs' health-related quality of life, health indicators, and perceived barriers to accessing veterinary care. We hypothesized that there would be significant differences in indicators of canine health and quality of life for Tufts at Tech clients who repeatedly utilize clinic wellness services compared to new or urgent care only Tufts at Tech clients, and a group of similar low-income owners in the same community who have not accessed care in this setting.

2. Materials and methods

2.1. Participants and procedure

The Tufts University Institutional Review Board approved the data collection procedures for dog owners as exempt research. Survey data were collected from a convenience sample of 177 low income adult (18 years of age or older) dog owners from Worcester, Massachusetts. Dog-owning clients from the Tufts at Tech clinic qualified for care at the clinic through income-screening eligibility criteria, which include documentation of at least one of the following: Women, Infant, and Children (WIC) food and nutrition service benefits, Supplemental Nutrition Assistance Program (SNAP), Worcester Housing Authority (or other local housing authority) resident, Worcester Technical High School student. Worcester is a city in central Massachusetts with a population of 181,045 (as of the 2010 Census), a median household income of $46,105, and 22% of the population lives below the poverty line (2010–2014 American Community Survey).

Of the overall sample, 63 participants were dog owners who were repeat clients to Tufts at Tech, and who had used the clinic services for preventative care (wellness care users). An additional 46 participants were Tufts at Tech clients who were either new clients or used the clinic for urgent care. The purpose of separating these two groups was to assess potential differences in dog health indicators for those who use the clinic for repeated preventative care as compared to those who only come for a single urgent care appointment. Tufts at Tech clients were asked to complete a paper survey in the clinic waiting room prior to their appointment.

The comparison sample included 68 dog owners who had not ever used the Tufts at Tech clinic. The non-Tufts at Tech clients were recruited through a number of local community groups and organizations, such as food pantries (for both human and dog food), local vaccine clinics, and through word of mouth within the community. The questionnaires were available in both English and Spanish. These participants were also asked to complete a paper copy of the survey and were given a small bag of dog food ($10 value) or a $10 clinic voucher as compensation for their time.

2.2. Measures

Participant Characteristics. Participants were asked to report their own age, gender, race/ethnicity, yearly household income, and who lives in their household (e.g., children, parents). In addition, dog owners were asked which income screening requirements they were eligible for (see above).

Pet Ownership. Dog owners were asked to report the age of their dog(s). If they had multiple dogs living in their home, Tufts at Tech clients were asked to complete the questionnaire related to the dog visiting the clinic that day. For the comparison group participants, they were asked to complete the questionnaire for the dog they had owned the longest. They were also asked to report the number and species of pets in their home.

Dog Health Indicators. Owners were asked to report on a number of health indicators for their dogs associated with access to preventative/wellness care. These indicators included spay/neuter status, use of heartworm preventative, use of flea/tick preventative, wellness exam within the last year, visit to a veterinarian for an illness/injury within the past year, vaccination status, presence of problem behaviors (e.g., aggression/fear towards people or other dogs, destructive behavior, resource guarding, difficulty with housetraining, separation anxiety), and use of obedience training.

Canine Health-Related Quality of Life. Canine quality of life (QOL) was measured using a modified version of the Canine Health Quality of Life Survey (CHQLS-15; Lavan, 2013). This measure has three QOL subscales, including happiness (4 items), mental status (3 items), and physical functioning (3 items). Response options range from 1 (Strongly Disagree) to 5 (Strongly Agree). The original CHQLS-15 survey contained an additional hygiene scale (3 items), but pilot testing with our population of interest indicated that owners were confused by the wording of these items. An additional two items from the physical functioning scale were removed as a result of pilot testing with an initial sample of 30 Tufts at Tech clients due to confusion in the population of owners.

Attachment. Owner-reported attachment to their dogs was measured using the Companion Animal Bonding Scale (Poresky et al., 1987), a validated and frequently used companion animal attachment measure. The scale includes eight Likert-type items asking about attachment behaviors, with response options ranging from 1 (Never) to 5 (Always). Sample items include "How often are you responsible for your pet's care?" and "How often do you feel that your pet is responsive to you?" Participants rated each of the items regarding their dog.

Barriers to Accessing Veterinary Care. Owners were also asked to report the degree to which they agreed with a set of seven statements reflecting barriers to accessing veterinary care, with response options ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Statements included: "veterinary care is too expensive," "I can't find a vet near me," "My pet does not need to see the vet because he or she is healthy,"