



A Student-Run Free Mobile Veterinary Clinic in the Phoenix Metropolitan Area

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Abstract

For many individuals who are housing insecure or homeless, dealing with the emotional toll of these stressors is made more bearable by the companionship of a pet. However, access to veterinary care is limited for these and other underserved populations. To ensure veterinary care is made available for all pets, the Midwestern University College of Veterinary Medicine's mobile veterinary clinic provides free veterinary services. Additional goals of our student-run free mobile veterinary clinic are to provide clinical and interprofessional opportunities for students, including education in the One Health initiative, and to expose students to the challenges associated with providing veterinary care to underserved populations. This article describes the clinic operations, impact, and future directions of the Midwestern University College of Veterinary Medicine's mobile veterinary clinic.

Introduction

The homeless, housing insecure, and other underserved populations in the Phoenix metropolitan area (Arizona) are faced with a daily struggle to gain access to food, housing, and health care services for themselves and their families. The physical and mental health benefits of pet ownership are well established, including improvement in emotional wellbeing, increased productivity and participation in the community, decreased feelings of loneliness, and increased social interactions.^{1,2,3} These mental health benefits may be even greater for people challenged by housing insecurity and homelessness.^{4,5} The goals of our student-run free mobile veterinary clinic are to foster the human-animal bond by providing excellent veterinary care for pets owned by individuals that would otherwise not be able to afford these services, to provide clinical and interprofessional opportunities for the students of Midwestern University (MWU), including education in the One Health initiative, and to expose future veterinarians to the challenges associated with providing veterinary care to underserved populations. The One Health Initiative recognizes "that human health (includ-

ing mental health via the human-animal bond phenomenon), animal health, and ecosystem health are inextricably linked. One Health seeks to promote, improve, and defend the health and well-being of all species by enhancing cooperation and collaboration between physicians, veterinarians, other scientific health and environmental professionals and by promoting strengths in leadership and management to achieve these goals."⁶

Our student-run free clinic provides care to patients in underserved communities through partnership with local animal welfare organizations, as well as MWU's interdisciplinary Health Outreach through Medicine and Education (HOME) Program. Founded by the Osteopathic Medicine program in 1999, the HOME Program brings together students from MWU's various health colleges to provide comprehensive medical services to underserved populations, while simultaneously promoting interdisciplinary collaboration. Through the HOME Program, we have partnered with Life-Bridge Community Alliance (Lifebridge), a local food bank and resource center that has provided food and clothing to over 3,200 people in 2017.

At Lifebridge, we host educational presentations, monthly evening wellness clinics, and quar-

terly surgical sterilization clinics. Essential veterinary services, including preventive care that consists of physical exams, vaccines, deworming, minor medical care, and sterilization surgery, are provided via the MWU College of Veterinary Medicine’s mobile clinic. The mobile clinic is a 33’ long 2016 La Boit mobile veterinary clinic provisioned with a generator, climate control, two surgical tables, two anesthesia machines, an oxygen concentrator, active gas scavenger, medical refrigerator, examination/preparation table, desk, multiple secure storage cabinets, and twelve animal holding cages. It is designed to provide mobile spay and neuter surgeries, minor surgical procedures, wellness examinations, minor medical procedures, and field medical diagnostics.

The care that this clinic provides can be critical for keeping pets in their homes with their families and maintaining the stability of the human-animal bond. It also provides important public health benefits such as deworming against zoonotic parasites (roundworm and hookworm), treatment of ringworm, and protection against rabies.⁷

Clinic Operations

The student-run free clinic runs the first Wednesday evening of each month from 6:00 PM to 9:00 PM and is managed and run by two veterinary student clinic coordinators, with support from other veterinary HOME Program officers. Between eight and twelve veterinary student volunteers from all four years are recruited for each event. Volunteers sign up on a first-come, first-served basis for slots allocated by year using the paid version of the cloud-based volunteer software SignUp Genius (www.signupgenius.com). This software allows students to swap slots if they can no longer volunteer as well as receive automated reminders prior to the clinic. The clinic is overseen by one to two volunteer faculty preceptors, typically including the HOME faculty advisor.

Clients (the owner of the pet) are initially checked in on a first-come, first-served basis by social work student volunteers from the Greater Valley Area Health and Education Center (GVAHEC). Using a point-based triage system, each patient (animal to be seen) is awarded points based on the animal’s needs (Table 1). A maximum of 30 points are allocated per clinic evening, including recheck

Table 1. Point allocation for wellness and minor medical clinics

Presenting Complaint	Points
Vaccine only	1
One basic medical problem	2
Multiple medical problems	3

appointments scheduled from previous clinics. Recheck appointments are tracked via a list in order to reserve space for them at the next clinic. Patients must be personally owned pets and clients can be allocated a maximum of four points each, allowing them to bring multiple pets to the clinic. Unfortunately, demand for services often exceeds the number of available points and clients must be turned away once the points are filled.

The GVAHEC volunteers assist with the initial paperwork process where client and basic pet information is received. One client consent is generated per client and one patient medical record per patient. A student team comprises a first-year student along with either a second, third, or fourth-year student. Student teams then interview clients to discuss the medical history of the pet and to determine the necessary services. Typical services provided on clinic evenings include physical examinations, vaccinations, deworming, basic diagnostics, and minor medical treatments. Examples of basic diagnostics include ear and skin cytologies, fine needle aspirates, and fungal evaluations. The pet is then brought onto the mobile veterinary clinic for a physical examination by the veterinary student team. Three to four teams can conduct examinations at one time on the mobile unit.

The veterinary student team records data on the patient medical record based on exam findings and generates diagnostic, treatment, and, if required, welfare plans. Welfare plans are contingency plans for monitoring and managing animal welfare when treating conditions that may cause animal suffering if treatment is not successful. The case is then presented to the attending veterinarian and the plan is finalized for the animal based on differentials, diagnostics, and medications available on the mobile clinic. Diagnostic findings, treatments, medications, and recommendations are recorded on the patient medical record as well as a discharge form. Patients who require addi-

tional diagnostics or treatments that are unavailable on the mobile clinic are referred to local full-service veterinary clinics that offer low cost options. In order to maximize the number of pets that can receive service, the clinic also refers chronic conditions that require follow-up visits. Patients are discharged by the student team and an overview of the appointment is presented to the client. Student volunteers have unique opportunities to see a variety of medical conditions and improve their knowledge of preventive medicine. Additionally, clinic evenings provide students with practice in client communications.

In addition to the monthly evening clinics, a surgery day is scheduled for one Saturday each quarter (approximately every 3 months). The vast majority of these surgeries are elective sterilizations, but additional minor surgical procedures that alleviate or prevent animal suffering may also be performed. Clients with intact animals are encouraged to sign up for sterilization surgery at the time of their wellness exam. Surgical capacity is also determined on a points basis, with points allocated based on the type of surgery. Points range from one for a feline neuter to five for a large dog spay (Table 2). A maximum of 50 points, which approximates to twenty surgeries, are scheduled per surgical day. Clients are called the week of the procedure by HOME officers to inform them of a drop off time and instructions for fasting their animal prior to the surgical procedure. HOME officers use a common Google Voice (voice.google.com) number which protects individual student’s phone numbers and provides a common voicemail box.

Four first-years, two second-years, and two third/fourth-year student volunteer positions are allocated per surgery day. Second, third, and fourth-year students perform the surgeries under the guidance of one or two faculty veterinarians. First and second-year students perform pre-surgical physical examinations and assist a veterinary technician with induction of anesthesia, intubation, surgical preparation, monitoring of anesthesia, and recovery of the patients. Students also discharge the patients with instructions detailing post-operative expectations and the Google Voice number to call with questions or concerns. This number is monitored by the faculty advisor, and clients with post-surgical concerns are assisted via

Table 2. Point allocation for surgical clinics

Presenting Complaint	Points
Cat (any age) neuter or puppy (<6 months) neuter	1
Cat spay	2
Adult dog neuter	2
<20 lb dog spay or any puppy (<6 months) spay	3
Specialty surgeries	3
20-40 lb dog spay	4
Rabbit spay or neuter	4
40-60 lb dog spay	5

telemedicine or scheduled to be seen at the on-campus MWU Companion Animal Clinic.

Educational Opportunities

Two veterinary students are elected to serve as education coordinators for the HOME Program. These students are responsible for creating and delivering monthly educational presentations, organizing and distributing educational materials, and assisting in the coordination of wellness clinics and surgery events. Throughout the year, these HOME Program veterinary education coordinators present at various locations, including Lifebridge, Central Arizona Shelter Services (CASS) and United Methodist Outreach Ministries (UMOM) - Fillmore in Phoenix. CASS and UMOM are pet-friendly homeless shelters and temporary housing facilities where veterinary education coordinators present alongside osteopathic medicine, physical therapy, dental, and physician assistant students. The topics at these locations have historically been focused on human medicine (proper diet, personal hygiene, etc.). The addition of veterinary topics presented by veterinary and other health care students truly embodies the One Health Initiative by encouraging interprofessional collaboration. The interprofessional education events have brought many future medical professionals together with the common goal of improving the health and wellness of our patients.

Veterinary health care education topics including the importance of preventive care and dangerous foods for pets. These presentations are designed to spark discussions and questions pertaining to the proper care of pets. There are “pop quiz”

questions that appear throughout the presentations that push the community members to think through the information and engage in friendly competition to answer correctly. These education events also serve as an opportunity to advertise the services available to pets through the mobile clinic. Many community members are made aware of the next wellness clinic event during these presentations.

Recently, a new presentation directed toward children between 5-12 years of age was created to discuss topics such as the importance of providing food, water, and shelter to pets. Additionally, safe behavior around animals is discussed and kindness to animals is encouraged. The focus of this child-friendly presentation is to instill a sense of responsibility and respect for animals. This presentation will be presented to the children living on the San Carlos Apache Indian Reservation.

Quantification of Impact

The Lifebridge wellness and minor medical clinic began its clinic operations in May 2016. As of November 2017, 20 evening clinics have been offered. Each wellness clinic runs approximately three to four hours in length, and an average of 15-20 patients are seen each visit. One hundred eleven veterinary students, volunteering for 194 volunteer slots, provided medical services (including general physical exams, vaccinations, and minor medical diagnostic testing) for 469 dogs and cats. Of these patients, 170 (36%) had never previously been seen by a veterinarian. On the six surgical days held at Lifebridge, a total of 122 sterilization surgeries and 22 specialty surgeries (such as tumor removals, amputations, hernia repairs, dew-claw removal, enucleation, and entropion repair) have been provided to the community.

Challenges and Future Directions

One of the largest challenges faced as a student-run free veterinary clinic is cultivating the clinical interprofessional relationship with other programs at MWU. Currently, fourteen professional programs on campus are incorporated in the HOME program. Osteopathic medicine, physician assistant, physical therapy, and dental programs have the largest class sizes and thus the

most participation in HOME program clinics. These professions work together at the CASS and UMOM clinics as an interprofessional clinical team to address a patient's needs. A future goal of our program is to incorporate veterinary students into the interprofessional health care team in order to promote the One Health initiative to the students of MWU, as well as the community. Veterinary medicine adds unique insight to human health care and public health. Veterinarians are trained in comparative and preventive medicine, as well as zoonotic diseases.⁷ Many medical professionals are unaware of the veterinary field, the services provided, and the interplay between human and animal health.⁸

An additional challenge is the number of clients that we must turn away due to demand that outstrips supply. As awareness has spread, more clients are seeking our services, with many arriving an hour prior to the start of the clinic in order to reserve a slot. We began offering a vaccine clinic concurrently with our surgical days in order to serve more clients and allow more veterinary students to volunteer.

Despite the challenges and limitations of our student-run free clinic, it has made a significant impact on individual community members as well as students. Pets without other options for veterinary care have received care, and students have been given irreplaceable hands-on clinical and educational opportunities. By providing free veterinary services, we have not only improved public health but also supported the human-animal bond that provides important mental and physical health benefits to this vulnerable underserved population.

Disclosures

The authors have no conflicts of interest to disclose.

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