How to Equip and Deploy a Regional, Integrated Veterinary Disaster Response Trailer

Claudia Sonder, DVM*; Wallace Liberman, DVM; Gary Hanes, DVM; and Chelsea Damon, CVT

Authors’ addresses: Napa Valley Equine, 3198 Silverado Trail, Napa, CA 94558 (Sonder); Panorama Equine Medical & Surgical Center, 10302 Old Oregon Trail, Redding, CA 96003 (Liberman); Briarwood Equine Clinic, Inc., 4370 Alpine Road, Portola Valley, CA 94028 (Hanes); Northern California Association of Equine Practitioners, 2995 Woodside Road, Suite 400-333, Woodside, CA 94062 (Damon); e-mail: csonder@norcalep.org. *Corresponding and presenting author. © 2021 AAEP.

1. Introduction

Planning for the animal component of disaster response is federally mandated by the Pets Evacuation and Transportation Standards (PETS) Act passed in 2006.1 The PETS Act was written to address companion animals, and historically, standardized planning for equines has been poorly detailed in the literature. The size and scope of federally declared disaster events in California within the last 5 years have prompted enhanced planning for mass evacuation and sheltering of animals.2 Veterinary integration with local emergency operation centers and creation of memorandums of understanding (MOUs) for activation and deployment are an essential component to an integrated veterinary response.3 The objective of this paper is to describe a template for creation and deployment of a regional veterinary disaster response trailer.

2. Materials and Methods

The Northern California Association of Equine Practitioners (NCAEP) acquired a veterinary disaster response trailer in 2017 after the California Wine Country Complex Fires prompted the evacuation of over 1000 horses into local shelters. Access to an empty cargo trailer and donation of veterinary supplies by NCAEP educational partners facilitated a veterinary hub for member veterinarians to volunteer time and services to the sheltered equines. The success of that collaborative response prompted the NCAEP leadership to seek donation of a disaster response trailer for future deployments. Donors were solicited to procure an 18-ft-long × 8-ft-wide × 10-ft-tall bumper pull cargo trailer. The cost of the trailer was $16,000, which included approximately $4,000 worth of electrical components, shelving, strapping, and detailing upgrades to promote mobility and organization of supplies (Fig. 1). A roadmap to a functional, integrated disaster response trailer starts with establishing key relationships and volunteer protections in advance of disaster season. Key relationships include the following:

- Integration with local emergency operations center. In most cases, the animal component of response is handled by the local animal control
office or county animal shelter. This is a good place to start with a call to investigate local support for an organized plan for horses and livestock. Counties may require incident command system (ICS) training and a swear-in process to certify volunteers as disaster service workers (DSWs). DSW certification ensures volunteers can receive worker’s compensation if injured while volunteering. If deployed, DSWs can request supplies through a formal ICS 213 request routed through animal services. In a federally declared disaster, the county can be reimbursed for these supplies. An MOU can be drafted to clearly define the roles and responsibilities of the county and the veterinary responders.4

- Integration with state veterinary medical reserve corps (VMRC). Each state will likely have a VMRC, and response veterinarians who wish to deliver mutual aid to surrounding counties can comply with required training that usually includes ICS training, response training, and volunteer orientation. VMRCs are activated when the county needs exceed local response capacity and mutual aid is requested at the state level.

- An organized notification system for veterinary volunteers and a central hub for volunteer information and training. Volunteers can complete a membership survey with contact information, species familiarity, and license information and be added to a group call-out system that provides incident information and access to volunteer shift sign ups. Ideally, this group can gather to train and attend continuing education relevant to disaster response.

- Establishment of 501(c)(3) status is valuable to garner donor support for the acquisition of a trailer, equipment, and supplies. Alternatively, a response group can request fiscal oversight from a local Veterinary Medical Association or equine 501(c)(3). Cost to establish nonprofit status is variable and can take several months to secure.

- Industry partner collaborations. Outreach to seek supply donation channels can be key to maintaining a stocked trailer. Early in disasters, access to supplies via ICS 213 requests can take several days to achieve. Industry partners benefit from their involvement in response and can bring stories of medical aid and
reunification back to their company outreach professionals. The goodwill generated through disaster support is tremendous. Trailer inventory sheets can be maintained and checked quarterly. Supplies nearing expiration can be donated to volunteer veterinarians serving equine nonprofit organizations.

Additional Considerations for Deployment of a Veterinary Response Trailer in Advance of Deployment Include the Following:

- **Standard operating guidelines (SOGs)**

  It is helpful for veterinary response groups to have a set of standard operating guidelines made available to member veterinarians to review ahead of response. Clear SOGs ensure a common understanding of roles and responsibilities. Various operating procedures should be detailed such as medical record completion, trailer setup and lockup, communications with organizations running the shelter, communications with horse owners, and general treatment protocols. The NCAEP has developed a set of SOGs that are available to veterinarians upon request. These are updated annually based on lessons learned from deployments and volunteer feedback.

- **Liability**

  Veterinarians should sign a volunteer liability waiver annually, which protects the organization deploying the disaster response trailer. They should be sworn in as DSWs upon completion of required training in advance of disaster season or on the day of their deployment. Community agents are deputized to perform legal swear ins, and in the age of COVID-19, they can be performed virtually if locally approved and the appropriate paperwork is completed. Access to incident swear-in opportunities is included in the standard MOU for trailer deployment.

Considerations During Deployment Include the Following:

- **Patient care**

  The recommended ratio of veterinarian/technician pairs to horses in the shelter is 1:50. Equine wildland fire shelter data suggest that approximately 20% of sheltered equines will need veterinary care, which renders approximately 10 patients on the treatment board for every 50 horses in the shelter.a Evacuated horse owners are often encumbered with the disaster and cannot provide daily care for their animals. In the initial stages of a disaster, it is helpful to schedule one veterinarian/technician team to inspect incoming animals, in addition to the team performing treatments. Scheduling veterinarians with an experienced equine assistant to restrain animals and assist with treatments creates added efficiency and safety. In many cases, volunteer veterinarians schedule their own technicians to accompany their shifts. Allowing the horses to settle into their enclosure for 30 to 60 minutes prior to examination helps offset the influence of adrenaline on the intake exam and improves overall safety. Horses needing care are examined by veterinarians and are added to the treatment board and medical record system based on their intake number (Fig. 2A). A second board for “add-on” exams is maintained adjacent to the treatment board such that attending shelter care volunteers can report medical issues to the veterinary.
Communications and consent from the owner are necessary before any treatments are performed on the animal. Consultation with the agency overseeing the shelter is required if owner consent is not readily available. The NCAEP can deliver care, free of charge, as supplies and veterinary time are donated. The decision to bill for services rendered should align with the resources of the entity responding. Patient medications can be gathered in small baskets labeled with the patient ID and pen number to facilitate daily treatments. A map of the shelter and labeled enclosures should be posted adjacent to the treatment board to facilitate locating patients (Fig. 2C). An isolation area and biosecurity stations should be evident on the map, and shelter care personnel should be trained to follow biosecurity procedures. Discharge instructions can be completed for animals heading home on continued medications.

- **Patient identification**

It is crucial that patient ID and not pen numbers are utilized to identify patients. It is usually the responsibility of the agency overseeing the shelter to assign and tag the equines with individual numbers that are unique to that shelter. Pen numbers and letters should also be unique and not duplicated onsite. Each animal should have a patient care sheet attached to the pen maintained by the agency running the shelter. Patient care sheets should document owner contact information and horse signalment and track appetite, water consumption, manure output, and demeanor at given time points. Failures of horses to meet expected normal values on these sheets will trigger requests for veterinary examination to the “add-on” board (Fig. 2B). Ideally, shelter care volunteers are trained on normal water consumption, manure output (i.e., 1 pile q3-4h), stance, and mentation.

- **Medical supplies**

Recent shelter data gathered by the NCAEP suggest that wounds and lacerations, gastrointestinal disturbances, lameness, and eye problems are the most common problems encountered in the wildland fire shelter. Ample supply of medications and bandage materials necessary to treat these conditions should be kept on hand and monitored for expiration status. NSAIDs are the most prescribed medications for all of the common problems. Equipment to treat medical colics, suture lacerations, examine eyes, examine hooves, collect laboratory samples, and perform stall side lab analysis enhance care options. A mechanism to legally label medications and store them appropriately should be developed.

- **Feeding station**

Shelter conditions create the perfect storm for equine gastrointestinal disturbances and colic. If diminished fecal output, appetite, water consumption, or mental brightness are reported and physical exam warrants intervention, “VET FEED” signs can be posted on the pens. Scheduled small, hydrated feedings can be orchestrated and added to the treatment board until the horse regains normal fecal output, motility, and demeanor. It is important to have access to a suitable selection of pelleted feed materials that can be used to enhance appetite and hydration. These materials should be secured in a locked area that is not accessible to a loose horse. Ideally, a similar locked area for owner hay should be maintained with horse ID info attached to ensure continuity of feed if possible. Reduced, more frequent feedings of owner hay blended to shelter hay as needed are advised for the first 2 to 3 days of sheltering to offset the potential for colic or impaction.

- **Veterinary team scheduling**

The NCAEP schedules two volunteer veterinarian shifts daily spanning 8AM to 3PM and 2PM to 10 PM, with each veterinarian scheduled with a treatment technician or experienced handler. One hour of overlap allows for information exchange. Alternatively, responding veterinarians can cover both shifts if caseloads allow. Shift demand is often highest in the first week of deployment and during active evacuation windows. Shelter managers or community animal response team leaders should be provided with local emergency contacts for after-hours coverage, which should be arranged at the event’s outset. At the end of each deployment day, pictures of treatment boards should be e-mailed to the operations manager and a new board created for the following day by the treatment technician. Discussions of staffing and inventory needs should occur daily, with a plan to address unmet needs. Operations manager is a paid position within the NCAEP. The treatment technician should also inspect medical record entries to ensure completion by shift veterinarians. Ideally, a system for medical record completion and data collection and transfer should be established to track response statistics. This is best accomplished by assigning a lead veterinarian for a 72-hour shift, with 8 hours of overlap. This structure facilitates orientation of volunteers and continuity of care. The lead veterinarian can be the main point of contact with the agency overseeing the shelter such as a local community animal response team or animal control staff. They can also serve as the primary communicator with clients to provide updates and document permission to treat.

- **Tertiary care relationships**

Collaborations with local referral hospitals are necessary to triage horses with needs exceeding the field shelter team’s capabilities. Virtual case consults can be valuable tools to assist decisions in the field and are especially important when decisions for unclaimed
horses are made. In all cases, consultation with the agency having jurisdiction over the animals (animal services or other) is a necessary step when care decisions are being made on unclaimed animals.

3. Results
The establishment of the relationships, training, volunteer capacity, and resources to respond to large-scale disasters improves equine welfare and community resilience. Since 2017, the NCAEP trailer has served over 1471 sheltered equines through six significant fires. It has been entirely donor supported and strengthened collaborative relationships with industry partners, member veterinarians, tertiary care facilities, and the horse community. The trailer was deployed for 52 days in 2020, with multiple deployment requests coming in simultaneously during large-scale fires. Additional trailers and response teams are needed to meet the demands during California’s extended fire season and elsewhere in the country where disasters strike.

4. Discussion
The lack of inclusion of horses in the PETS Act has resulted in poor regional community planning and preparedness for sheltering and evacuating equines. Failure to integrate the veterinary component of response into the local emergency action plan results in difficulties organizing veterinary care, procuring supplies, and protecting volunteers with DSW certification. The Wine County wildfires were a good example of what happens when there is no pre-existing plan for treating mass numbers of horses regionally. At that time, the NCAEP had not developed an MOU with the local emergency operations center or the state VMRC, and the lack of volunteer protections jeopardized the organization as a whole from a liability perspective. SOGs were developed (Fig. 3) on the fly, and there was no prior ICS training of veterinarians, which complicated communication and understanding of the chain of control of the horses. The Camp Fire in 2018 presented a similar situation where the state VMRC was deployed to the companion animal shelters, and the NCAEP was asked to support veterinary operations of the sheltered livestock, with the assistance of the University of California, Davis Veterinary Medical Response Team. Although SOGs and veterinary supply chains had been established, there was still no mechanism available to ensure the daily swear in of non-Veterinary Medical Response Team veterinary volunteers. After 3 years of responding to various incidents in multiple counties, the NCAEP has adapted its training, SOGS, and key relationship-building practices to optimize response capabilities in Northern California. Regionally, equine practitioners have benefited from having the ability to request mutual aid through their emergency operations center and deploy colleagues to the shelters to lighten the burden of responsibility. This kind of planning is key to practice continuity, disaster resilience, and equine welfare. The goal of this publication is to share lessons learned and offer a template for the development of regional resilience.

Acknowledgments
The NCAEP wishes to acknowledge its educational partners for their role in acquiring and supplying the NCAEP trailer. The NCAEP acknowledges the West Coast Equine Foundation and the Trailer Specialist Company for their contributions to the trailer purchase.

Declaration of Ethics
The Authors have adhered to the Principles of Veterinary Medical Ethics of the AVMA.

Conflict of Interest
The Authors have leadership roles and are board members of the NCAEP. These are volunteer positions. Chelsea Damon, CVT, is the paid operations manager of the NCAEP. There are no declared conflicts.

References and Footnote
4. NCAEP Draft MOU. 2021. https://drive.google.com/drive/folders/1nFZy1V9uQsA34CWJOXOSVU0rGsrwty?usp=sharing