Study/Objective: Lessons learned from California's 2015 Valley Fire can aid in preparing the next clinic or community for disaster.
Background: Fire swept through 70,000 acres and 3 populated communities in less than 48 hours, destroying over 1,400 homes and affecting countless animals. Few people had time to prepare to evacuate There was little government resources for animals. Private practitioners, animal rescue organizations, and trained animal disaster rescuers shouldered the responsibility for animal needs while working within a government response structure.
Methods: Middletown Animal Hospital was activated by the California Office of Emergency Services (Cal-OES), and multiple rescue groups were authorized to deploy to aid the hospital's response. Veterinary care and shelter was provided to lost, injured, or displaced animals presented to us by owners, residents, relief workers, disaster responders, or anyone else with a need. Volunteer veterinarians and technicians rotated through the hospital. All animals treated were documented and posted to social media as a reunification resource. Additional site options were developed. These efforts were synthesized on the fly because there was no pre-existing plan.
Results: More than 800 animals were treated over 4 weeks. The Middletown Animal Donation Operation received and distributed over $80,000 of animal supplies. Nearly every domestic species was treated; conditions treated included burns, smoke inhalation, vomiting/diarrhea, heart failure, and dermatitis; surgeries performed included amputation, tendon repair, wound/burn debridement/repair, and prolapsed rectal repair.
Conclusion: Lessons Learned include: Prepare and Pre-Defend your space. Prepare for evacuation - and evacuate! Prepare for surviving the fire or re-entry by anticipating worst case needs. If you are a veterinarian, your clinic may become the best place from which to stage animal relief and rescue. Get disaster training and certification. Do not count on the government to provide animal disaster relief. Organized Veterinary Medicine and Animal Rescue Groups can provide relief. Be prepared by establishing working relationships ahead of time and seek help when needed.

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Incorporation of Experiential Learning for Disaster Response for Veterinary Students, Veterinarians, and Other Animal Stakeholder Groups, Strengthens Overall Community Resilience

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Study/Objective: This outlines a dynamic training program that is incorporated into the professional curriculum at the Louisiana State University School of Veterinary Medicine (LSU-SVM). The program's success is based on providing tools necessary for building a community animal response team, whereby veterinary doctors and other animal stakeholders work with emergency officials to care for animals during disaster response situations.
Background: Veterinarians, medical doctors, firefighters, and nurses are among the top respected professionals in the world today. The veterinary professional's daily focus on saving lives makes their leadership role a vital one for development of community disaster response planning, and mitigation for both animals and people. For veterinarians to be effective leaders in disaster situations, they must be trained in basic core competencies, including the Incident Command System (ICS) and National Incident Management System (NIMS), animal euthanasia, biosecurity, all-hazards emergency preparedness, business continuity training, technical responder training, and incident de-briefing. Specific instruction on biosecurity and euthanasia are staples included in standard veterinary professional curricula; business planning and continuity are available as elective courses in veterinary schools and ICS/NIMS are available to the public via the Federal Emergency Management Agency, a division of the U.S. Department of Homeland Security.
Methods: The LSU-SVM and the LSU-Ag Center partnering with the Louisiana State Animal Response Team (LSART), have developed a training certificate program to develop core competencies of disaster response (large animal emergency technical rescue, slack water rescue, hazardous material management, triage, planning and assessment) for veterinary students and graduates, animal stakeholder groups and other animal care professionals.
Results: The LSART/LSU partnership has trained over 1,000 veterinary students, veterinarians, first responders, and animal care personnel since 2001.
Conclusion: With the integration of specific disaster response training modules within the veterinary professional curriculum, graduate veterinarians are better equipped to contribute to community disaster response situations, thus strengthening overall community resilience.

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Veterinary Integration into Multi-agency Disaster Response: Training the Next Generation of Responders

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Study/Objective: Outline a protocol for training and integrating veterinary students, veterinarians and first responders to improve community resilience during disasters.
Background: Veterinarians take an oath to use 'scientific knowledge and skills for the benefit of society', which includes

promoting public health and relieving animal suffering. Public safety is enhanced when animal health is addressed in disaster management. Obstacles to functional disaster responses that include animals may be due to limited 1) evacuation/sheltering plans; 2) integration of professionals 3) training opportunities.
Methods: A general review of legislature, literature, training reports, incident debriefings, community group meetings and agency consultations was conducted to assess the availability and effectiveness of veterinarians in disaster response. A veterinary student survey (Davis) was used to assess disaster response understanding, skill set and interest for training.
Results: Recent fires illuminate the need for local veterinary involvement in response. Community organizers report difficulty in securing veterinary services in disasters. A veterinary student survey showed the majority are interested in training as part of their medical education. Fire services report gaps in animal handling. Law enforcement reports public safety concerns. These professionals don't regularly interact, and time is lost when faced with an incident involving animals. England and France have models for integrating veterinarians into fire service. A working group of veterinarians, consultants and community organizers developed a 10 module lecture and lab disaster curriculum that covers all hazards-all species animal handling, evacuation, sheltering, biosecurity, triage, and Incident Command System.
Conclusion: Veterinarians are skilled in animal movement/capture, husbandry, and triage; first responders have skills in technical rescue; law enforcement is charged with public safety and traffic control. Training veterinary students in disaster response, aligns with the veterinary oath and creates the next generation of professionals capable of participating in disaster response. Trainings that include first responders foster a seamless response further maximizing positive outcomes.

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Co-Location and Close Proximity Facilities for Animal and Human Sheltering as Part of a Community Disaster Preparedness Plan: Application of GIS

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Study/Objective: The objective of this study is to establish a Geographic Information System (GIS) report for animal shelter facilities that are co-located or in close proximity to human shelter locations for Yolo County, California.
Background: The inclusion of animals in emergency management is gaining more attention from the general public, government agencies and academic institutions worldwide. Addressing the needs of animals during disasters is crucial, not only for the welfare of animals, but also safety for people. Animals that are abandoned experience starvation, injury and death. People's concern for animals puts their own physical and psychological well being in danger, because of their reluctance to comply with evacuation orders. Animal owner non-compliance in turn, jeopardizes first responder safety. Shelter location is critical to the development and implementation of emergency planning. In the US, jurisdictions that have variable plans in place, are likely to exclude animals in paper documents only. GIS data management and analysis can facilitate efficacious emergency planning for human and animal sheltering needs.
Methods: Base maps were obtained from county websites. Facility locations were acquired from Red Cross, Office of Emergency Services and Google, and stored in attribute tables. All data was downloaded into ArcGIS. Multiple ring buffers identified animal facilities within 500, 1,000 and 1,500 meters (.31 mi., .62 mi., .93 mi.) of human facilities. A proximity analysis was performed to determine the nearest shelter sites for people and pets and was reported in near tables.
Results: Red Cross shelters, veterinary clinics, pet-friendly hotels, outdoor sites and county animal shelters were identified. The majority of Red Cross shelters were not within 1500 meters of animal housing. Less than 10% of Red Cross shelters were within 500 meters of veterinary clinics.
Conclusion: The GIS reports provide quick visual assessments of relative locations of human and animal facilities for pre-disaster planning. Utilizing GIS analysis can identify gaps and be instrumental in emergency preparedness community planning for animals and people.

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Epidemiological Evaluation of Cat Health at a First-response Animal Shelter in Fukushima, following the Great East Japan Earthquakes of 2011

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Study/Objective: The purpose of this study was to retrospectively evaluate the incidence of Upper Respiratory Infection (URI) and diarrhea in cats at the first response animal shelter in Fukushima, and investigate factors affecting the duration of disease and determinants of treatments performed.
Background: Unplanned animal rescue, in addition to unregulated and/or unstandardized sheltering of affected animals during disaster, caused secondary damage to animals such as disease epidemics. Stress-related disease such as URI and diarrhea were extremely common in cats at the first response shelter in Fukushima, imposing not only animal welfare and cat health issue, but also public health concern.
Methods: A retrospective cohort study was performed at a first response temporary disaster shelter in Ihno, Fukushima Prefecture, Japan. Between April 27, 2011 to December 31, 2012 there were 189 cats brought in by animal control officers from the restricted area to the temporary disaster shelter as part of an animal rescue operation. The incidences of URI and diarrhea were compared between the first and second years, and related to factors predictive of disease duration and frequency, including choice of treatment options.