Emergency Preparedness in the Animal Facility

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Emergency vs. Disaster

- **Emergency**
  - Sudden, unexpected occurrence or set of circumstances demanding immediate action

- **Disaster**
  - Great or sudden misfortune that results in loss of life, property, etc. or that is ruinous to an undertaking
Recent Disasters

- The Jackson Laboratory, 1989
  - 400,000 mice die in a fire
- Tropical Storm Allison, 1991
  - 35,000 animals die due to flooding
  - $102 million in damages
- Hurricane Katrina, 2005
  - Tulane euthanized a significant number of animals
- The Ohio State University, 2006
  - ~600 mice die following a power outage
- University of Iowa, 2011
  - 20,000 mice evacuated because of flooding
Facilities MUST have a disaster plan!
Disaster Plan Should vs. Must

- Define the actions to prevent animal pain, distress, and deaths
- Animals that cannot be relocated or protected **MUST** be humanely euthanized
- How the facility will preserve animals that are necessary for critical research activities or are irreplaceable
Disaster Plan Should vs. Must

- Established in conjunction with investigators
  - Priorities for triaging animal populations
  - Institutional needs and resources
- Identify essential personnel
- Law enforcement and emergency personnel provided with a copy
Disaster Scenario
Two cows were definitely out of their element on April 21 when they broke loose from the Ohio State University Veterinary Hospital and, for 90 minutes, were pursued by public safety officials across campus before finally being corralled. The incident attracted the attention of hundreds of faculty, staff and students.

Public safety officials tried using police cruisers and soccer goal nets, among other techniques, to confine the animals so they could be captured, all of which didn’t work out so well.
Disaster Categories

- Natural
- Technological
- Programmatic
- Civil
Natural Disaster

- Any event or force of nature that has catastrophic consequences, such as avalanche, earthquake, flood, forest fire, hurricane, lightning, tornado, tsunami, and volcanic eruption.
Hurricane Katrina
Hurricane Katrina

- 600,000 pets were killed or left without shelter
- 8,000 animals were rescued
- Helicopters and rescue boats refused to load pets
- Families refused to evacuate without pets
Disaster Scenario
Disaster Scenario

• You are the director of the Yerkes National Primate Center in Atlanta, Georgia. It is 6:30pm and you were just informed that a tornado destroyed the perimeter fencing and enclosures housing the chimpanzees, rhesus macaques, and pigtail macaques.

• What is your next course of action?
Disaster Scenario

It is now 6:45pm and an unsuspecting news anchor is knocking on your front door.

How do you respond?
Technological Disasters

- Associated with tools, machines, devices, and substances used in the work environment
- Difficult to predict or foresee
- No established patterns
- Little or no warning
Disaster Scenario

• You are a clinical veterinarian at a multi-million dollar transgenic mouse facility. You are the only veterinarian because your colleagues are at an international laboratory animal medicine meeting. The building supervisor rushes into your office that the HVAC system caught on fire and is not functional.

• What is your next course of action?
Technological Disaster

- Automatic water system failure
- Water bottles, Hydropacs, Napa nectar
Technological Disaster

- Hot environmental temperature
  - Open doors, turn off biosafety cabinets
  - Bring in portable air conditioning units
  - Move animals
- Tattletale
- Service2Facilities alarms

- Animals are less tolerant of heat vs. cold!
Technological Disaster

- Low environmental temperature
- Turn on biosafety cabinets
- Move animals
Disaster Scenario

It is December in Ohio and temperatures have ranged between 17 and 30 degrees. The power has been compromised to the quarantine facility, causing the water pipes to freeze and burst. With no heat or power, most animal rooms are at 40 degrees.

What do you do?
Programmatic Disasters

- Failure of people, programs, training, or compliance
Programmatic Disasters

- Costa Concordia
Disaster Scenario
Disaster Scenario

- You are the director of the Centers for Disease Control and Prevention and you receive a frantic call concerning potential Marburg virus contamination. A usually reliable employee forgot to properly seal the door to the BSL-4 suite and viral particles potentially escaped into the hallway.

- What is your next course of action?
Civil Disasters

- Harmful human acts or health emergencies
- Damage/vandalism secondary to human rights terrorists
- Employee strikes
Disaster Scenario
Disaster Scenario

• You are the attending veterinarian at a pharmaceutical company that utilizes nonhuman primates in research protocols. The facility was recently vandalized by animal rights activists.

• What could have been done to prevent the vandalism?

• What steps can be taken in attempts to prevent the vandalism from happening again?
Disaster Preparedness Hierarchy

- Facility design
- Facility preventive maintenance
- Personal preparedness
- Work site preparedness
- Community preparedness
Developing a Disaster Plan

- Perform a vulnerability assessment
- Prioritize disaster preparedness efforts
  1. Identify hazards
  2. Identify resources
  3. Quantify potential losses
  4. Create a risk index
Developing a Disaster Plan

- Identify hazards
  - List geographic and climatic hazards
  - Consider primary or secondary man-made disasters
  - Predict likelihood of each hazard
Developing a Disaster Plan

- Identify resources
  - Identify potential sources of assistance
  - Supplies needed for disaster response
Developing a Disaster Plan

- Quantify potential losses
  - Cost of the event and impact on operational budget
- Animal euthanasia
  - Public safety
  - Food and water deficiency
  - Poor environmental conditions
Developing a Disaster Plan

Create a risk index

- Derived from the product of the rank of disruptions, rank of dependence on backup utilities, and cost of potential losses for all animal care and research units
- Higher the risk index, the higher priority for disaster preparedness efforts in the area
OSU-ULAR

- Business Continuity Plan
- Disaster Site Management Plan
- Animal Facility Emergency Guide
Business Continuity Plan

- Direct continuity and recovery strategies for all business processes for ULAR at any of their operating locations.
- Defines general priorities, strategies, and resources (assets) to direct and assist ULAR in continuing and/or recovering its business processes.
Disaster Site Management Plan

- Defines general response strategies, teams, and contact information to guide the initial response activities of this department to respond to an incident
- Activated in the event of any incident that is expected to disrupt operations for more than 24 hours
- Plan is reviewed and updated at least every six months
- Plan is exercised at least once a year
Animal Facility Emergency Guide

- Preparedness actions
- Levels of emergencies
  - Level 1 to Level 3
- Emergency animal care
- Campus police
- Fire
- Power failure
- Bomb threat
- Animal activist
Outside Lab Animal
AVMA Disaster Preparedness

“The AVMA encourages and fosters veterinary leadership in local, state and federal efforts to deal with "all hazards / all species" within the United States – preparing for disasters and emergencies involving animals, animal and public health, and other veterinary issues.”

• http://www.avma.org/disaster/default.asp
Disaster Preparedness for Veterinary Practices

are you prepared to continue practicing in the aftermath of a disaster?

disaster preparedness series

http://www.avma.org/disaster/vet_practices_brochure.pdf
Disaster Preparedness

- Emergency relocation of animals
- Medical record back-up
- Continuity of operations
- Security of building and personnel
- General emergency planning
- Fire prevention
- Insurance and legal issues
Disaster Preparedness

- Emergency relocation of animals
- Leashes, carriers
- Pre-arranged animal transportation
- Animal holding locations
- Weather-resistance patient identification
Disaster Preparedness

- Medical record back-up
- Off-site computer back-up
- Off-site copies of important documents
- Itemized inventory
- Digital storage
Disaster Preparedness

- Continuity of operations
  - Alternate power source
  - Alternate food and water sources
  - 5-7 day supply of food and water (staff & patients)
  - 5-7 day supply of medications
  - Alternate practice location
Disaster Preparedness

- Security of building and personnel
  - Fire department evacuation drills and inspection
  - Security from theft, looting, and crimes
  - Emergency lighting
  - Multiple exits
  - Disaster/evacuation drills
Disaster Preparedness

- General emergency planning
  - Address appropriate responses to all foreseeable emergencies
- Employee training
- Proper maintenance of equipment
Disaster Preparedness

- Fire prevention
  - Identify major fire hazards and the necessary equipment to control each hazard
  - Control accumulation of flammable and combustible waste or materials
Disaster Preparedness

- Insurance and legal issues
  - Current and comprehensive insurance policy
  - Receipts for all purchases
  - Videotape and photograph inventory
Saving the Whole Family

- Guidelines to help avoid leaving animals stranded in the event of a disaster or evacuation
  - Identification
  - Transportation/housing
  - Veterinary records
  - Proof of ownership
  - Emergency contact information
  - Evacuation and first aid kits
    - Small animal, livestock, equine, “other” pets
Veterinary Medical Assistance Teams

- The VMAT program was created by the AVMA after Hurricane Andrew in 1992
- Funded by grants from the American Veterinary Medical Foundation (AVMF)
VMAT

- Manages and investigates US animal disease outbreaks
- Works in conjunction with >40,000 federally accredited veterinary practitioners assisting with disease exclusion, detection, and control
- First responders to ensure high-quality care of animals during disasters and emergencies
- Ensure that pets, livestock, zoo animals, and wildlife all receive the proper care during a crisis
VMAT

- 3 functions
  - Early assessment
  - Basic treatment
  - Training
- Not meant to replace state and local response teams
- Support local response efforts by filling gaps or providing surge capacity
Before a VMAT can be deployed, a signed Memorandum of Understanding between the AVMA and the state animal health authority must be on file with the AVMA.

- Travel, housing, and per diem expenses are covered by the AVMA VMAT program through AVMF funding.
AVMA Committee on Disaster and Emergency Issues

- Established in 2001
- 10 members
  - Established experience and expertise in disaster preparedness and emergency issues
- Addresses the veterinarian’s role in emergency and disaster issues
- Develop guidelines for the veterinary profession to use regarding various aspects of disaster situations
Hurricane Katrina Response

- Pets Evacuation and Transportation Standards Act (PETS Act)
- Post-Katrina Emergency Response Act (PKEMRA)

PETS Act, 2006

- Requires states seeking FEMA assistance to accommodate pets and service animals in their plans for evacuating residents
- Operational when a federal disaster is DECLARED
- Provides reimbursement for allowable, documented services

http://www.avma.org/disaster/petsact_faq.asp
National Response Framework (NRF) redefined Emergency Support Functions (ESF) and added responsibilities for pets.
Animal Care Emergency Program

- Vision: Nation working together to protect the public through ensuring the safety and well-being of animals during disasters
- Promotes effective planning
- Delivers training
- Mobilizes trained individuals to provide technical assistance, resource management, and response
- Provides contingency plans to facilities regulated by the AWA
Database of veterinarians and animal health technicians willing and qualified to help in national and international animal health emergencies and disasters

Used in Foot and Mouth Disease outbreak in the UK and Bovine Spongiform Encephalitis response in Washington state
Georgia: 1st state to accommodate companion animals in disaster shelters
National Veterinary Stockpile

- To fight catastrophic animal disease outbreaks that terrorist or nature may create (within 24 hours)

- Provides:
  - Supplies
  - Equipment
  - Field tests
  - Vaccines
  - Support
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