Methods for Improving the Management and Control of Rabies in Maryland

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What is rabies?

- A highly fatal viral disease
- Transmitted by saliva
- Reservoirs are bats, foxes, raccoons, and skunks
- Vectors include cats, groundhogs, and others
- Preventable in humans if post-exposure prophylaxis (PEP) is initiated in a timely fashion

Steps in the typical pathway of infection

1) A bite occurs; the virus incubates and ascends the nerves.
2) The virus enters the spinal cord and spreads rapidly to the brain.
3) Further replication of the virus occurs.
4) The virus travels via the nerves of the head to the salivary glands and the animal’s saliva becomes infectious.
Rabies in Maryland

Confirmed Rabies Cases in Maryland, 1980-2006

964 Raccoons (87.6%)
PROJECT GOAL:
Develop methods and suggestions for improving rabies management and control

- Develop a statewide guidance document
- Improve rabies surveillance efforts
- Reduce human exposures to rabies
Maryland Rabies Management Compendium

MRMC addresses:

- History of rabies in Maryland
- Rabies biology
- Exposure assessment
- Testing guidelines
- Quarantine policies
- Information for animal care and control providers
- Guidelines for healthcare providers
**Rabies surveillance**

Methods for improving current surveillance efforts:

1) Require uniform submission standards, which
   - Restrict testing of pets caged exclusively indoors for the last 6 months
   - Prohibit submission of animals with no history of exposing a human or domestic animal
     - 27 to 64% of submissions for rabies testing are unnecessary (varies widely by location)
     - At $180 per test, annual cost to the State for unnecessary testing is $246 to $500K
Rabies surveillance

Methods for improving current surveillance efforts:

2) Change surveillance forms to …

- Link exposures with testing results
- Gather information on zip code of exposure, quarantine of domestic animals, and number of persons requiring post-exposure prophylaxis
- Rabies FORMS A and B of the MRMC
Reducing human exposures

Of all the domestic animals, cats present the highest risk of rabies exposure to humans

- Since 1982, 79% of all rabies positive domestic animals have been cats (380/481)
- A 1992 Maryland study found each rabid cat exposed 5.7 times as many people as each rabid raccoon (9.7 vs. 1.7 human exposures)
- In 2006, of the 15 rabid cats in Maryland
  - 100% were unvaccinated
  - 53% were feral or currently stray
  - 47% were owned, but stray during the last 6 months
Reducing human exposures

Methods for reducing human exposures to rabid cats:

1) Require the registration and regulation of Trap/Neuter/Release (TNR) programs, including…
   • The vaccination of all TNR cats
   • The designation of a caretaker for all TNR cat colonies

Half of all jurisdictions with rabies positive cats in 2006 knew of at least 1 TNR program operating in their area!
Reducing human exposures

Methods for reducing human exposures to rabid cats:

2) Require the all animal shelters and pet stores that provide previously stray animals for adoption or sale to...

- Notify new owners of the risk of inapparent rabies infection in writing
- Educate owners of the signs of rabies and the actions to take if their new pet becomes ill
- Rabies FORM E of the MRMC
In conclusion ...

Despite the increased incidence of animal rabies since 1982, Maryland has successfully prevented the occurrence of human rabies since 1976. The implementation of the methods and suggestions provided by this project could strengthen Maryland’s current rabies prevention and control efforts.

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