AAVMC/APTR One Health Interprofessional Education
Pet Ownership Risks and Benefits

Robert Ellis, MD, FAAFP
Associate Professor of Family Medicine
University of Cincinnati

Carrie Ellis, DVM, MS
Associate Veterinarian
The Animal Hospital on Mt. Lookout Square
Cincinnati, Ohio
Objectives

• Discuss the demographics of pet ownership in the U.S.
• Understand the risks and benefits of pet ownership
• Enable accurate patient education to minimize risk of zoonotic infections.
Pets in the U.S.

- 58.3% of households have a pet
- 36.1% have dogs
- 31.6% have cats
- 60% of pet owning households have 2 or more pets
- More pets than children in US households
- More common in households with children

Pets in the U.S.

- Cats: 82 million
- Dogs: 72 million
- Birds: 12 million
- Small mammals: 10 million
- Horses: 9.2 million
- Reptiles: 4 million
- Fish: almost 50 million

- Over 19 billion chickens on Earth
Why is this important?

• Wisconsin Survey
  • Physicians and Veterinarians (N= 322 and 327)
  • Physicians “very uncomfortable” educating about zoonoses
  • Physicians thought Vets should be equal to more responsible for patient education

Need for better training

Why is this important?

• Veterinarians often do not know if a client is immunocompromised or has other medical conditions that increase their risk.

• Only 21% of HIV patients felt comfortable asking vets about the health risks of pet ownership.

Why is this important?

- Tucson, AZ Survey
  - Parents (N=231)
    - Only 42% knew about Salmonella risk with reptiles
    - Only 35% received info about toxoplasmosis by their obstetrician
    - 58% believed 4 y/o are safe to be left unattended with a dog.
  - Pediatricians (N=112)
    - Only 17% reported regularly counseling families about pet related health hazards
    - 86% felt that educating families about pet related health hazards is beneficial. (Barrier: time)

Benefit of Animals

• Pet owners have 15% fewer doctor visits. (Headey 2007)
• Seniors who own pets coped better with stressful life events without entering the healthcare system. (Raina 1998)
• Pet owners have lower blood pressure. (Friedmann 1983, Anderson 1992)
• Pet owners have lower triglyceride and cholesterol levels than non-owners. (Anderson, 1992)
Benefit of Animals

- Pet owners have a higher one-year survival rates following coronary heart disease. (Friedman, 1980, 1995)
- Children exposed to pets during the first year of life have a lower frequency of allergic rhinitis and asthma. (Hesselmar 1999, Celedon 2002, Perzanowski 2002, Gern 2006, Wegienka 2011)
- People who have AIDS that have pets have less depression and reduced stress. (Siegel 1999, Carmack 1991)
- Dog owners were more likely to be physically active.
Benefit of Animals

• Seniors who own dogs require less doctor visits. (Siegel 1990)
• Human health savings of $3.86 billion over 10 years have been linked to pet ownership as related to a decrease in doctor visits in studies in Austria and Germany (Heady, 2002)
Special Populations

- Immunocompromised
- Diabetic mellitus
- Young children
- Elderly

Who do we consider immunocompromised?

- HIV positive patients
- Patients on chronic oral steroids
- Patients with cancer during active treatment
- Patients with previous organ transplant
- Other immunosuppressant medications
  - Methotrexate, TNF blocker, etc
Patients with HIV and Immunocompromised

- Do not have to give up their pets (SOR AII)
- Although the risks are low, you can get an infection from pets or other animals.
- Simple precautions.
- HIV can *not* be spread by, or to, cats, dogs, birds, or other pets.

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Patients with HIV and Immunocompromised

Potential infections

- Cryptosporidiosis
- Toxoplasmosis
- Mycobacterium avium complex
- Giardiasis
- Salmonellosis
- Campylobacteriosis
- other diseases


Patients with HIV and Immunocompromised

Preventative measures (SOR IIIB)

- Wash hands
- Only feed commercial pet food
- Avoid pets with diarrhea
- Avoid pets <6 m/o
- Avoid stray animals
- Don’t touch their stool
- Keep cat’s nails clipped
- Keep fleas off pets
- Don’t let pets lick your face
- Wear gloves when cleaning
- Clean litter box/cage liners daily

**Regular Veterinary Exams**


Patients with HIV and Immunocompromised

Pets to generally avoid

• Reptiles, including lizards, snakes, and turtles
• Baby chicks and ducklings
• Exotic pets (monkeys, etc.)
• Wild Animals
• Extra caution with Farm animals including petting zoos


Infants and Young Children (Younger than 5 y/o)

• Supervised while interacting with animals.
• Children should not be allowed to kiss pets or to put their hands or other objects into their mouths after handling animals.
• Wash hands after contact with animals.

What’s wrong with this picture?
- 2 dogs
- No adults
- Also, bouncer too close to stairs
Infants and Young Children (Younger than 5 y/o)

- CDC recommends to avoid contact with...
  - Reptiles (lizards, snakes and turtles)
  - Amphibians (frogs, toads, newts, and salamanders)
  - Chicks and ducklings
  - Petting zoos

Not realistic: I let my kids go. Wash/sanitize hands immediately after and keep child’s hands out of his/her mouth.
Elderly

- Often prone to infections
- Decreased strength
- Poorer balance
- Thinner and more fragile skin
- Frequently on blood thinning medications
- Decreased sensory perception
- Grandparent’s pet may not be socialized to small children
Case Example

- The NC Division of Public Health was notified of a cluster of 3 cases on hemolytic uremic syndrome caused by *E. coli* O157: H7.

- Upon investigation, with the help of local health departments, they identified 108 persons how became ill with a diarrheal illness. 78% of them visited a petting zoo (goats and sheep) at the state fair. 38 individuals were confirmed to have the same *E. coli* isolates.

- Environmental sampling found *E. coli* extensive contamination of one of the 2 petting zoos.

- A case-control study was done to identify risk factors for infection using controls (fair attendees that had no illness).

- No food, beverage, or recreational water was associated with illness.

- Illness was associated with touching or stepping on manure, falling or sitting on the ground, and use of pacifier, sippy cup or sucking thumb while in the petting zoo.

- Alcohol based hand sanitizer use was not protective.

- Reported awareness (by adult who accompanied child) of risk for disease from contact with livestock was preventive.
Discussion questions

• Based on this case, how can health professions (physicians, veterinarians, health professional) work together to prevent further petting zoo related outbreaks in the future?

• A local group is setting up a petting zoo at their summer festival. They plan to have goats, sheep, potbelly pigs, chicks, and rabbits. They are asking you for help to ensure the safety of their attendees. What specific recommendations would you give to decrease the likelihood of a petting zoo related infection?
Summary

• All physician, veterinary, and health professionals share in the responsibility of educating people on healthy human and animal interactions.
• For most people the benefits outweigh the risk of pet ownership
• Taking simple precautions can minimize potential risks.