Pets in Families: What Family Physicians Should Know and Do

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In today’s world, families are under increasing stress, from financial and time constraints, to family breakdown, substance abuse, and threats of violence. Family physicians are seeing an increase in psychosocial issues such as anxiety and stress-related disorders, often co-existing with and complicating medical problems such as diabetes or pneumonia. The psychosocial issues are often more difficult to diagnose and manage than are the medical problems—and all take place in the family context. Very often, the family is the key to dealing effectively with the whole spectrum of complaints, requiring a psychosocial assessment. In the crowded family medicine curriculum, this vital area of knowledge and skill is often ignored in favour of more clear-cut procedural skills.

To educate family physicians about dealing with families, a group of family medicine educators, practitioners and mental health professionals affiliated with the Department of Family and Community Medicine at the University Of Toronto founded the Working with Families Institute (WWFI) in 1985. The WWFI has developed various training experiences for trainees and practising physicians.

Goals
The goal of these modules is to provide a learning resource for physicians dealing with common medical and psychosocial issues that have an impact on families. The modules seek to bridge the gap between current and best practice, and provide opportunities for physicians to enhance or change their approach to a particular clinical problem.

The modules have been written by a multidisciplinary team from the Faculty of Medicine, University of Toronto. Each module has been peer-reviewed by external reviewers from academic family medicine centres across Canada. The approach is systemic, emphasizing the interconnectedness of family and personal issues and how these factors may help or hinder the medical problems. The topics range from postpartum adjustment to the dying patient, using a problem-based style and real case scenarios that pose questions to the reader. The cases are followed by an information section based on the latest evidence, case commentaries, references and resources.

How to Use the Modules
The modules are designed for either individual learning or small group discussion. We recommend that readers attempt to answer the questions in the case scenarios before reviewing the case commentaries or reading the information section.

The editors welcome feedback on these modules and suggestions for other modules. Feedback can be directed to Dr. Watson at dfcm.wwfi@utoronto.ca.

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SUMMARY

Pets are important members of families. They provide emotional support, social capital, and are strong motivators in making positive lifestyle changes that improve human health. Pets also have direct and positive impact on human health—zooeyia. Family physicians can use the Pet Query practice tool to uncover information about a patient’s home life and family structure and to strengthen the patient-physician therapeutic alliance. Managing risks of zoonotic disease and injury is not the primary nor the sole responsibility of family physicians, but rather an opportunity for interprofessional collaboration with veterinarians.

OBJECTIVES

After active participation in this module, you will be better able to:
1. evaluate the multiple roles of companion animals in your patients’ families.
2. use the Pet Query tool to explore your patients’ home context, psychosocial determinants of health, social capital and where applicable, strengthen the patient-physician therapeutic alliance.
3. assess the impact of companion animals on the health of your patients, their families and communities.

Key Features

1. Pets have important roles for over half of Canadian families—including your patients. They provide emotional support; they are a source of social capital; they positively impact multiple determinants of health; they catalyze positive lifestyle behaviours.
2. Family physicians who are aware of the role of pets in their patients’ families can improve overall health care management and strengthen the patient-physician therapeutic alliance.
3. Recognizing the role of pets in some families and incorporating that understanding into practice is an opportunity to develop transferable skills in cultural competency.
4. Managing the risk of zoonotic disease and injury is an opportunity for interprofessional collaboration. An effective One Health approach recognizes the connection of human health to the health of animals and the environment and incorporates the specialized expertise of both physicians and veterinarians.

Core Competencies

1. Family Medicine Expert:
   1.1 Demonstrate proficient assessment and management of patients using the patient-centred clinical method.
   1.2 Provide comprehensive and continuing care throughout the life cycle incorporating appropriate preventive, diagnostic and therapeutic interventions.
2. Communicator:
   2.1 Develop rapport, trust and ethical therapeutic relationships with patients and families.
   2.2 Accurately elicit and synthesize information from, and perspectives of, patients and families, colleagues and other professionals.
2.3 Develop a common understanding on issues, problems and plans with patients and families, colleagues and other professionals to develop, provide and follow up on a shared plan of care.

3. Collaborator:
   3.1 Participate in a collaborative, team-based model and with consulting health professionals in the care of patients.
   3.2 Engage patients or specific groups of patients and their families as active participants in their care.

4. Health Advocate:
   4.1 Respond to individual patient health needs and issues as part of patient care.
   4.2 Promote the health of individual patients, communities and populations.
CASE STUDY

Case 1: Alan

You are a family physician in a busy urban practice. You look at your next patient’s chart and note that Alan, aged 53, is here for his periodic health exam. At his last visit, he refused to even discuss quitting smoking, saying he just wasn’t motivated. When asked about exercise, he said he didn’t have the time. He is single, with few social supports. You feel that you have not yet established adequate trust and therapeutic rapport with him, and wonder what you could do differently as you walk in the room.

While reviewing his cumulative patient profile, you decide to use the Pet Query tool, asking whether he lives with a pet. He responds that he has recently got a dog, a young golden retriever named Molly. He immediately opens up to you and talks enthusiastically about how Molly has changed his life. For the first time, you have found a platform on which to build rapport. He goes on to say that he walks Molly outside for 45 minutes every day. He has made several new friends among other dog owners he met at the dog park.

After complimenting Alan on his healthy decision to exercise more, you ask him about his current cigarette use. He reports he is still smoking 15-20 cigarettes a day. You ask if he has considered the dangers of second-hand smoke to others, including Molly, and wonder if he would attempt to curtail the amount he is smoking and discontinue smoking inside. For the first time, you can see Allan moving beyond pre-contemplation about his smoking.

- Are pets common household companions? How many of your patients have animal companions?
- What role does Molly play in Alan’s life? What effect is she having on his health?
- Does Molly contribute to Alan’s social capital?
- How can pets improve patients’ health?
- Why and how might pets influence patients’ lifestyle choices and behaviours?

Case 2: Zoe

You are a family medicine resident, rotating through your rural family medicine block. Mary is a long-time patient of the practice. Today, she brings in her daughter Zoe, who has recently developed a rash. The rash consists of pruritic, round lesions on her trunk. On physical exam, you note a happy, interactive eight-year-old girl who has elevated, erythematous, papular and annular lesions. There is some mild crusting and scaling. Zoe is otherwise asymptomatic.

You ask Mary about any recent changes in Zoe’s life. What has she been doing since school ended last month? Are there any recent significant changes at home? Mary proudly announces that Zoe did so well at school this year that they gave her a kitten as a reward. Zoe is besotted with Fluffy and plays with her constantly—even sleeping with the kitten.

You perform a quick scraping of one of the lesions and do a KOH prep. Using office microscopy, you see branching hyphae.
Case 3: Allison

Part A:
You are a family doctor working in a busy suburban practice. Allison, aged 27, and John, aged 31, have both been your patients for several years. They married last year, and now want to start a family. During Allison’s periodic health review and pre-pregnancy examination, you update the cumulative patient profile, and use the Pet Query tool to inquire about pets in the home. Allison confirms that they own a German Shepherd dog and a Siamese cat, with whom they are strongly bonded. Allison then asks what they should do to prepare for a pregnancy and a new baby.

• How would you counsel Allison and John?

Part B:
Allison and John return a year later after having delivered a healthy term baby boy, Jason, two weeks ago. They still have both their pets. They are concerned about potential risks their pets might pose to their baby.

• How should you counsel Allison and John about their pets and the new baby?

Part C:
Allison brings Jason to his 18-month well-baby visit. Allison shares that her mother-in-law has been nagging her to get rid of the pets because they will cause Jason to develop asthma. She asks you what you think they should do.

• How should you counsel Allison about her mother-in-law’s concerns about pets and asthma?
INFORMATION POINTS

Background
1. Pet ownership in Canada
   1.1. 55% of Canadian households own at least one pet.
   1.2. 15% of Canadian households expect to acquire a new pet in the coming year.
   1.3. Over 8 million cats and more than 6 million dogs live in Canadian households.
   1.4. While dogs and cats are the most popular pets, Canadians keep multiple species as companion animals, including fish, birds, rabbits, hamsters, lizards, horses, guinea pigs, snakes, frogs, turtles, ferrets and gerbils.

2. Roles of pets in families
   2.1. Domestic animals have lived with humans for many millennia and through selective breeding have developed dependent and supportive relations with the families and communities where they live. Other animals, such as aquarium fish, lizards, snakes and turtles that have not been domesticated, are also kept as pets. Owners can be strongly bonded to these animals as well.
   2.2. Most pet owners consider their animal companions part of the family. This is true for all cultures, although the specific human-animal dynamics may vary.
   2.3. Having pets benefits individual health by encouraging regular exercise and dietary patterns, and through improving physiologic parameters, such as ameliorating hypertension.
   2.4. Pets are important companions. They enhance feelings of happiness, security, and self-worth and reduce feelings of loneliness and isolation.
   2.5. Pets are a source of social capital. They enhance social interactions, civic engagement, perceptions of neighbourhood friendliness, and a sense of community.
   2.6. Contrary to stereotype, pet lovers seldom supplant humans with animals in their relationships, but rather generalize their capacity for love, empathy, and compassion to all species.
   2.7. The role of pets in families changes through the family’s life cycle. Pets can complement the family structure, fitting into the human dynamics of the family and adjusting to the developmental stages of their families. Pets can also act as replacements for human family members, either augmenting or interfering with human dynamics.
   2.8. The loss of a pet can be life-changing. Grief may be profound, affecting the owner’s health and outlook.

The Pet Query Practice Tool
3. The Pet Query (Figure 1) is a valuable practice tool in patient management. It can be used when taking a patient’s history to update the cumulative patient profile, especially during the first visit and periodic health reviews.
   3.1. Ask “Are there pets in your extended family?”
   3.2. If the answer is no, the conversation on the topic is over. You have done nothing to upset the patient and have established your openness.
on the subject. Should patients acquire a pet in the future, they may recall your interest and let you know about the new family member.

3.3. If the patient has a pet, ask how many and which species. The risks and benefits of pets in the patient’s life vary by species.

3.4. Ask the patient to provide the contact information for the pets’ veterinarian. This will facilitate any interprofessional collaboration that may be beneficial in the future.

3.4.1. Offer your business card to the patient, and invite them to give it to their veterinarian. Assure the patient that you will not discuss any health issue with the veterinarian unless you have their express permission to do so, and the issue is also pertinent to the animal’s health care.


5. Issues concerning pets are valid concerns of the family physician. For example, if a dog who is the patient’s exercise partner develops osteoarthritis, it will adversely impact on the patient’s activity level.

6. Using the Pet Query strengthens the physician-patient therapeutic alliance. It demonstrates the physician’s interest in the patient’s entire family and home life.

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**Figure 1: The Pet Query Practice Tool**

**Are there pets in your extended family?**

- **Yes**

**How many?**

**What species?**

**Veterinary contact information?**
Zooeyia: The Health Benefits of Pets

7. The human health benefits of companion animals include the physical, emotional and community benefits. “Zooeyia” is derived from the Greek root words for animal (zoion) and health (Hygeia was the ancient Greek goddess of health—the same source as “hygiene”). Zooeyia is the positive inverse of zoonosis (from the same “zoion” and “nosos”, or disease).  

8. The significance of pets to human health has long been acknowledged by many, including the U.S. National Institutes of Health. Their consensus statement on the Health Benefits of Pets concluded with a call for all future studies in human health to consider the presence or absence of a pet in the home and the nature of the relationship with the pet.  

9. Chronic diseases place a great burden on the health care system, society, patients and their families. Many controllable health risk factors can be positively impacted by having pets: physical inactivity, obesity, smoking, hypertension, the social isolation of chronic disease and psychiatric disease. Pets can act as sentinels for abuse.  

9.1. An estimated six million Canadians have high blood pressure. The mere presence of a pet has a significant and positive effect on the cardiovascular parameters of stress in their owners and reduces hypertension. Pets provide the non-judgemental social support intervention that buffers pathogenic responses to stress. They are more effective than ACE inhibitors in controlling hypertension.  

9.2. Cat ownership, in particular, significantly reduces the risk of cardiovascular disease and associated death. This holds true regardless of patient’s age, gender, ethnicity, systolic blood pressure, cigarette smoking, diabetes mellitus, serum cholesterol and body mass index.  

10. Pets, particularly dogs, encourage regular exercise, especially walking.  

10.1. Physical inactivity is such a significant predictor of disease that reducing this risk factor by a mere 10% would lead to estimated savings of $2.1 billion, or 2.5% of the total direct health care costs in Canada.  

10.1.1. It is estimated that if all Canadians engaged in 60 minutes of physical activity per day, 33% of all deaths related to coronary heart disease, 25% of deaths related to stroke, 20% of deaths related to type 2 diabetes, and 20% of deaths related to hypertension would be avoided.  

10.1.2. Dog ownership is a significant indicator of increased physical activity. Dog owners participate in about 300 minutes per week of moderate activity, compared to 170 minutes per week for non-dog owners. Further, individuals in this study with companion dogs maintained any weight loss over one year.  

10.1.3. Walking is an accessible exercise for most people, including the obese. Exercise advocates frequently recommend a “buddy system” for physical activity programs. Where a human buddy can both encourage and discourage regular exercise, a dog is a consistently positive influence—initiating exercise, adding enjoyment, and a source of parental pride. Dogs provide a social support system for exercise.
10.1.4. Children with dogs are significantly more active than those without pets. 20

11. Exposure to tobacco smoke is a widely recognized risk factor for many diseases, including cardiovascular and respiratory diseases and cancer. 21 Second-hand smoke also affects pets: cats are susceptible to oral squamous cell carcinoma and mammary cancer; dogs are susceptible to lung cancer and nasal cancer. These dangers of pet exposure to second-hand smoke can motivate pet owners to quit smoking, attempt to quit smoking, encourage other household members to quit, and/or prohibit smoking inside the home. 22 This evidence identifies a novel motivator for health care professionals to amplify smoking cessation messages, of particular significance for smokers who live alone with a pet.

12. Pets create feelings of attachment, emotional wellbeing and social wellbeing, and decrease feelings of isolation.
   12.1. A sense of belonging is an indicator of health. 23 The pervasive view of pets as integral members of the family has been buttressed by a recent study where oxytocin levels in dog owners increased significantly when their pets gazed at them. 24

12.2. Stressful events tend to escalate in the lives of the elderly, as their social supports and physical capabilities diminish. The accumulation of stressful events is associated with increased doctor contacts for patients without pets—but not for pet owners. Pets provide companionship, a sense of security, and a feeling of being loved. Pet ownership reduces demand for medical care, alleviating costs to the health care system. 25

Risk Assessment and an Interprofessional Approach to Zoonotic Disease and Injury

13. Approximately 60% of infectious diseases affecting humans can be spread to and from animals, and 75% of new and emerging diseases around the world are zoonotic. 26 Contributing factors include increasing urbanization, human encroachment on wildlife habitat, global climate change, international travel, and the increasing intimacy of animals in our lives.

14. The young, old, pregnant, immunocompromised (YOPIs) 27 and mentally challenged (YOPIMs) are at higher risk of contracting disease, including zoonoses.

15. Zoonotic disease is species-specific. 28 Different animal species carry different zoonoses. For example, cats are the most common source of ringworm. Turtles often carry salmonella.

16. Maintaining pets’ health lowers the risk of zoonotic disease to pet owners and families.

17. Physicians are neither primarily nor solely responsible for managing zoonotic disease. A suspicion or diagnosis of a zoonosis is an opportunity for interprofessional collaboration. While treating the affected patient, physicians can refer the patient to their veterinarian who has the expertise to simultaneously treat the pet.

17.1. You may give your business card to the patient to deliver to the veterinarian, and invite consultation. The patient’s express permission must be acquired before discussing the health problem with the veterinarian.
17.2. Such interprofessional collaboration can be established in advance of a crisis. Exchange business cards with the veterinarian through the patient. This will invite the veterinarian to contact you if a zoonotic infection is first discovered in the pet.

18. Advise a patient to remove their pet from the home only as a last resort. Less than a third of patients will comply; their pet is a member of the family. They may also lie about it—tell you they have disposed of the pet without doing so. 59

18.1. The suggestion to remove the pet from the home will cause serious conflict within the family.

18.2. Regardless of the outcome of recommending pet removal, the patient-physician therapeutic alliance will be seriously damaged. Physicians become frustrated because the patient (predictably) does not follow advice. Patients are incredulous that their doctor has such little understanding of their family dynamics. Trust is breached.
Case 1: Alan

It can be challenging to build therapeutic relationships with patients, and assess the reality of their home environment and family context. An important principle is to connect appropriately to patients’ interests. The vast majority of people with pets are emotionally attached to them. A useful tool for understanding the role of pets in a patient’s life is the Pet Query. By connecting with Alan through asking him about pets, you are able to better engage with him.

Relationships are an important motivator in changing behaviours. Data alone seldom motivate patients to quit smoking. Pets can form important and vital relationships. In your earlier encounters, Alan was pre-contemplative about the lifestyle issues of smoking and exercise. Molly plays several roles in Alan’s life. She is an emotional support and constant companion. She is always eager to go outside and motivates Alan to exercise. Molly has acted as a social lubricant for Alan. He is more engaged with other pet owners and the community. Protecting Molly from second-hand smoke can become a strong motivator for Alan to stop smoking, or at least limit his smoking to outside the home.

Case 2: Zoe

Exposures are a necessary and vital part of the history for skin lesions. Pet exposure should be considered as part of the environmental history. Contact dermatitis presentations and fungal infections are among the most common skin lesions secondary to animal contact. Animals in the home and places visited by the patient need to be considered, including exposure to wildlife.

Cats are common carriers of ringworm. Fluffy is the likely source of Zoe’s ringworm, and needs to be treated to avoid reinfection. You prescribe treatment for Zoe, and advise Mary to have the kitten examined by her veterinarian as soon as possible. You jot down your diagnosis of Zoe on a business card, and invite her to give it to the veterinarian. Meanwhile, Zoe should avoid skin-to-skin contact with her kitten, and Mary should keep Fluffy out of Zoe’s bedroom until she is examined by the veterinarian. Mary should launder Zoe’s bedding, where the kitten has slept.

Case 3: Allison

Part A

Misconceptions about the safety of being around animals during pregnancy abound. There is little high-quality research to guide family physicians, presenting an opportunity for increased interprofessional collaboration with other health care providers, including veterinarians.

After advising Allison about preparatory steps including diet, exercise and folic acid, you emphasize to Allison and John that keeping their pets healthy helps protect their future baby. You advise them to let the veterinarian know they are
planning to start a family. The veterinary team may be able to offer advice on how to encourage the pets to accept the infant as part of the family.

One specific risk is toxoplasmosis, which can be carried by cats, although exposure is more likely from under-cooked meat or contaminated soil. You advise Allison to wear gloves when gardening and cleaning the kitty litter—or leave that chore to John.

**Part B**

You check with Allison and John that they have taken their pets to the veterinarian, and are pleased to hear both cat and dog have been given a clean bill of health, with vaccinations up to date. The veterinarian has also put both animals on preventive parasite control programs, which will help protect Jason from zoonotic parasite larva migrans. The veterinarian also put Allison and John in touch with an animal trainer, who helped them with introducing both pets to Jason.

You recommend that Jason not be left alone with the pets. Babies and toddlers move unpredicatably, which can frighten the animals. As Jason goes through exploratory phases of development, his behaviour can be objectionable to animals, who may react aggressively. Supervision and separation provide the best prevention.

**Part C**

You ask if there is a family history of asthma or atopy, and whether Jason is exposed to tobacco smoke—both strong risk factors for developing asthma. The impact of pet exposure and risk of developing childhood asthma is unclear. “With conflicting data on early life exposure to pets, no general recommendation can be made with regard to avoiding pets for primary prevention of allergy and asthma (level III). However, families with biparental atopy should avoid having cats or dogs in the home (level II).”

The Hygiene Hypothesis suggests that early exposure to allergens helps mature young immunologic systems, leading to more controlled and measured response to all allergens. The role of older siblings is one example; pets may play a similar role. It has been suggested that exposure to pets prenatally and up to age three may modify the innate immune response in developing children, preventing allergies, atopy and asthma. Early exposure to pets may be protective against multiple triggers of asthma in many families.

You recommend that if Allison and John are concerned about Jason developing asthma, they pay particular attention to dusting and vacuuming, forbid smoking in the home, use an air filtration system, and remove wall-to-wall carpeting. As far as the pets go, keep them clean, and don’t let them sleep in Jason’s bedroom.
Conclusion

Family physicians who know of pets in their patients’ families have identified a motivator for the patient to make positive and healthier lifestyle choices. Pets impact emotional wellbeing and physical health, are sources of social capital, and strongly affect non-medical determinants of health. The Pet Query is a useful practice tool. It is an avenue to discussing the patient’s home life. A physician’s demonstrated interest in a pet strengthens the patient-physician therapeutic alliance. Zooeyia, the positive impact of animals on human health, is powerful. Zoonotic risk and disease invite professional collaboration with veterinarians. Healthy pets contribute to healthy families.
REFERENCES


