Welcome to Banfield Pet Hospital’s State of Pet Health 2011 Report, Volume 1—the first of its kind to capture and analyze the medical data from 2.1 million dogs and nearly 450,000 cats. As the largest general veterinary practice in the world, operating 770 hospitals in 43 states and employing more than 13,000 associates—including 2,400 licensed veterinarians—Banfield Pet Hospital has a unique understanding of the health of companion animals. Through our extensive commitment to innovation, our practice has created this ground-breaking, first-of-its-kind pet health report.

Pets are family—and our caring and compassionate veterinary teams partner with our clients to ensure pets stay part of the family by providing outstanding preventive care. This commitment was the driving force behind the creation of this report—we want to use our unique knowledge and research to help pet owners better care for their pets and raise awareness of serious health issues affecting dogs and cats.

Since Banfield was founded in 1955, many new companion animal diseases have been discovered, and the prevalence of diseases is constantly changing. There are several key diseases which are increasing in prevalence and are affecting the health of our pet population.

Below is an overview of significant findings from this year’s report:

- **Diabetes**—Since 2006, there has been a 32 percent increase in canine diabetes and a 16 percent increase in feline diabetes cases at Banfield hospitals.
- **Heartworm Disease**—One of the top three health risks for pets seen in Banfield hospitals in the Southern United States is heartworm disease. In 2010, this potentially fatal disease was detected in 6.7 percent of dogs in Mississippi; 6.3 percent in Arkansas; nearly 5 percent in Louisiana; nearly 3 percent in Alabama; 2.6 percent in Texas; and slightly more than 2 percent in South Carolina.
- **Dental Disease**—The most common disease in dogs and cats is dental disease, affecting 68 percent of cats and 78 percent of dogs over the age of 3. Just as with humans, dental disease has been associated with changes in liver, kidney and cardiac functions.
- **Otitis Externa**—The second most common disease affecting dogs and cats is otitis externa (ear infection). This disease has seen a 9.4 percent increase in dogs and a 34 percent increase in cats since 2006.
- **Fleas and Ticks**—Overall, the proportion of flea infestation has increased 16 percent in dogs and 12 percent in cats over the past five years.
- **Internal Parasites**—Roundworms, hookworms and tapeworms can be transmitted from animals to humans. Roundworms, hookworms and whipworms have been on the rise in cats since 2006 while hookworms and whipworms have been on the rise in dogs during this same period.

As a practice, our focus is making a better world for pets through preventive care. We are the leader in innovative pet healthcare programs, such as Optimum Wellness Plans®—packages of healthcare services that include the cost of preventive care at an affordable price. Most importantly, we believe that early diagnosis of disease will positively impact a pet’s health and lifespan. The information in this report will be useful to both veterinarians and pet owners as we partner to help pets live longer, healthier lives.

Sincerely,

Jeffrey Klausner, DVM, MS, DACVIM
Chief Medical Officer
Banfield Pet Hospital
In 2010, Banfield Pet Hospital cared for 2.1 million dogs and nearly 450,000 cats. Banfield’s veterinarians, technicians and paraprofessionals use PetWare®, Banfield’s proprietary data/electronic medical records system, to collect data from every pet cared for in Banfield hospitals. Information is downloaded daily to the medical database at Banfield’s main campus in Portland, Ore. Data are then analyzed by Banfield’s internal research team, Banfield Applied Research & Knowledge (BARK). BARK’s research findings are disseminated to Banfield veterinarians, the veterinary profession, and pet owners through various media including continuing education training, peer-reviewed publications, the Banfield Journal (a medical publication), and now, the State of Pet Health Report.

The State of Pet Health 2011 Report contains details of the most common and medically important diagnoses affecting dogs and cats in the United States, according to their age, breed and geographical location. In addition to the most common diagnoses affecting dogs and cats, this report also contains details on how the prevalence of selected diagnoses has differed over the last five years and how it has changed according to geography and season in 2010. These diagnoses have been selected because they are either the most common, preventable, transmittable to humans (zoonotic disease) or medically important due to the effect on a pet’s overall health and lifespan. The diagnoses include: diabetes mellitus, heartworm disease, dental disease, otitis externa (ear infection), fleas, ticks and internal parasites (roundworms, hookworms, tapeworms and whipworms).

Banfield’s commitment to providing high-quality veterinary care is grounded in evidence-based medicine—this is supported by BARK’s team of data analysts, many of whom are veterinarians and are dedicated to population-based research. Our commitment also extends to forming partnerships which will benefit pets and pet owners. This philosophy led PetSmart®, the nation’s largest retailer of pet-related products and services, to ask Banfield to bring high-quality care to their customers by opening pet hospitals in their stores in 1994. In 2007, Banfield joined Mars Incorporated® family of businesses with the common goal of providing high-quality pet care and nutrition to companion animals.

It is Banfield’s hope this report will shed light on the overall state of pet health so that veterinarians, pet owners and clinical researchers can focus their efforts on strengthening the bond between people and their pets.

The figures and graphs in this report are presented as cases per 10,000 (diabetes mellitus, heartworm disease, fleas, ticks and internal parasites) or cases per 100 (dental disease and otitis externa). For example, in 2010 there were 94 positive cases of heartworm disease detected per 10,000 tests performed in dogs. Canine dental disease affected 59 out of every 100 dogs seen in 2010.
Banfield Pet Hospital employs a team of skilled researchers to help our veterinarians deliver the best care possible based on the latest medical evidence—this team is called the Banfield Applied Research & Knowledge (BARK) team. BARK analyzes the medical data of the more than 6 million pet visits at Banfield hospitals each year through Banfield’s proprietary data medical records system, PetWare®. The team then conducts retrospective and prospective research and shares its findings with veterinarians and the public through web-based communications, white papers, Critically Appraised Topics (CATs) and the Banfield Journal.

For the State of Pet Health 2011 Report, the BARK team analyzed the medical records of the 2.1 million dogs and nearly 450,000 cats cared for in Banfield hospitals in 2010.
The most common dog breeds cared for in Banfield hospitals have changed over the past decade. There is a considerable increase in the popularity of smaller dogs, particularly Chihuahuas (+116 percent) and Shih Tzus (+87 percent), and a decrease in the popularity of larger breeds, specifically Labrador Retrievers (-20 percent) and German Shepherds (-40 percent). In addition, Pit Bulls have increased in popularity by 47 percent over the past 10 years. In 2010, three new dog breeds were added to the most common list of breeds cared for at Banfield—these breeds include the Standard Poodle as well as two small breeds: Yorkshire Terrier and Maltese.

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*Excluding American Cocker, English Springer and Cavalier King Charles spaniels.

Potential trend implications:
These trends could potentially change the way veterinarians practice medicine, as large breed and small breed dogs are prone to different diseases. While large breed dogs are more prone to arthritis, hip dysplasia and twisted stomachs, small breed dogs are more prone to diabetes mellitus, periodontal disease and dislocated kneecaps.

Trend hypothesis:
The popularity of small breed dogs may be on the rise due to several lifestyle factors: a younger pet owner population, increased apartment/condo ownership with smaller (or nonexistent) yards and a desire for pets that require less space when traveling. In addition, as the generation of pet owners with suburban homes and larger yards grows older and focuses more on travel or downsizing their homes, smaller dogs may be more desirable.

The most common cat breeds have remained consistent over the past 10 years. They include: domestic shorthair, domestic medium hair and domestic longhair.
The top 2010 diagnoses are a compilation of the most common diagnoses found in dogs throughout the year. While “Healthy Pet” is not a true medical diagnosis, it is important to include, as it reinforces that pet owners should bring their pets to the veterinarian for preventive care, as well as when their pets are sick or injured. Reasons for a “Healthy Pet” visit include physical examinations, routine vaccinations and blood work, nutritional counseling or behavior management, among other reasons.
The top 2010 diagnoses are a compilation of the most common diagnoses found in cats throughout the year. While “Healthy Pet” is not a true medical diagnosis, it is important to include, as it reinforces that pet owners should bring their pets to the veterinarian for preventive care, as well as when their pets are sick or injured. Reasons for a “Healthy Pet” visit include physical examinations, routine vaccinations and blood work, nutritional counseling or behavior management, among other reasons.
Diabetes mellitus is a serious medical condition in which a pet cannot control blood sugar levels due to problems with insulin production or function. Pet owners’ most common concerns are when pets display polyuria (excessive urination), polydipsia (excessive thirst) and weight loss, despite a good appetite. Diabetes mellitus is a chronic disease, requiring lifelong treatment and monitoring.

There are two main types of diabetes mellitus: Type 1 (insulin-dependent) and Type 2 (non-insulin-dependent). Type 1 diabetes mellitus occurs when there is very low or no production of insulin by the pancreas. This is similar to the form of diabetes seen in children.

Type 2 diabetes mellitus occurs when the pancreas produces adequate amounts of insulin but the body is resistant to it. This is similar to the form of diabetes that develops in adult humans and can be treated with insulin, diet and other medications. Cats can suffer from either form of diabetes mellitus, but are more commonly affected by Type 2; dogs are more commonly affected by Type 1.

After confirming a diagnosis of diabetes mellitus and determining whether a pet has other health concerns, a veterinarian will most likely begin treatment with diet modification and insulin injections. Management of a diabetic pet can be challenging for both veterinarians and pet owners, as every pet responds differently to insulin.

Ongoing management of the disease requires regular trips to the veterinarian to assess how the pet is doing, to monitor blood glucose levels and to decide whether modifications to the treatment plan are necessary.

**Bottom line:**
- The prevalence of diabetes mellitus in dogs increased from 13.3 cases per 10,000 in 2006 to 17.5 cases per 10,000 in 2010—a 32 percent increase.
- The prevalence of diabetes mellitus in cats increased from 55.5 cases per 10,000 in 2006 to 64.3 cases per 10,000 in 2010. Although this represents only a 16 percent increase, diabetes mellitus is much more common in cats than in dogs.
- In 2010, Iowa, Rhode Island, Idaho, Nevada and Delaware had the greatest prevalence of diabetes mellitus in dogs, while Massachusetts, Rhode Island, South Dakota, Nevada and New Hampshire had the greatest prevalence in cats.
- While diabetes mellitus was not listed in the top 10 diagnoses of pets seen in 2010, the diagnosis of overweight or obese, which are risk factors for diabetes mellitus, was high on the list. For young adult, mature adult and geriatric dogs, it was in the top five diagnoses, and for cats of the same age ranges, it was in the top three.

**Preventive recommendation:**
- Twice-a-year examinations help veterinarians detect clinical signs of diabetes mellitus early.
- Keeping pets from becoming overweight or obese through proper exercise, nutrition and dietary management can reduce the risk of diabetes mellitus and other serious diseases.
Key takeaway: As in humans, diabetes is on the rise in dogs and is associated with diet and exercise. Since 2006, Banfield has seen a 32 percent increase in canine diabetes patients.

Key takeaway: Diabetes mellitus remains a much bigger problem in cats than in dogs. Unlike canine diabetes, feline diabetes can potentially be reversed by weight loss.
SECTION ONE  DIABETES MELLITUS—GEOGRAPHIC TRENDS

2010 Diabetes Mellitus | Dog
Cases (per 10,000)

2010 Diabetes Mellitus | Cat
Cases (per 10,000)

Risk Level
- High
- Medium
- Low
- No Banfield hospital

Diabetes Mellitus — Geographic Trends
Heartworm disease is a serious but preventable condition caused by *Dirofilaria immitis*—long, slender parasitic worms that can reach up to 12 inches in length. Heartworm disease affects dogs, cats and ferrets and is potentially fatal. *Dirofilaria immitis* is transmitted from one pet to another by mosquitoes. Both indoor and outdoor pets are at risk for heartworm disease.

After infection, heartworms migrate to the blood vessels of the lungs and to the right side of the heart. Heartworms are capable of causing permanent damage to the heart and lungs before a pet shows any signs of disease. While there are treatment options for heartworm disease in dogs, there is currently no safe treatment for heartworm disease in cats or ferrets.

Clinical signs most commonly observed in pets with heartworm disease include cough, lethargy, difficulty breathing and sometimes hemoptysis (coughing up blood). Sudden death occurs rarely in dogs, but occurs more commonly in cats.

Treatment for heartworm disease is neither simple nor risk-free. The most common post-treatment complication is the development of pulmonary thromboembolism (clots within the lungs), caused when fragments of dead worms lodge in blood vessels within the lungs. Some degree of pulmonary thromboembolism will occur whenever heartworm disease is treated. Widespread blockage of pulmonary arteries can occur when worms die in great numbers.

Exercise after treatment can increase the chances of complications due to pulmonary thromboemboli, which is why exercise restriction is so important during and after treatment.

**Bottom line:**

- Heartworm disease shows a distinct geographic trend, with states in the Southeast having the highest prevalence of positive tests.
- In 2010, 6.7 percent of heartworm tests performed in dogs in Mississippi were positive; 6.3 percent in Arkansas; 5.0 percent in Louisiana; 2.9 percent in Alabama; 2.6 percent in Texas; and 2.1 percent in South Carolina.
- Although heartworm disease is more common during the warmer months, it is a year-round condition and has been diagnosed in every month and every state where Banfield has a hospital.*

*The American Heartworm Society reports that dogs testing positive for heartworm disease have been identified in all 50 states.

**Preventive recommendation:**

- Annual heartworm tests for dogs.
- Year-round preventives in either form of monthly medication (topical or pill) or twice-yearly injection for dogs. Cats in heartworm-endemic areas should receive either form of monthly medication.

**DID YOU KNOW?**

- *Companion pets are not the only animals susceptible to heartworm disease. Certain wild animals can become infected as well, providing other potential sources through which mosquitoes might transmit heartworms to pets.*
Key takeaway: Heartworm disease in dogs is most prevalent in the South, where up to 10 percent of dogs are infected by the disease in some states. Banfield has diagnosed heartworm disease in all 43 states where there is a Banfield hospital. In addition, the American Heartworm Society reports that dogs testing positive for heartworm disease have been identified in all 50 states.

Heartworm disease does affect cats. Although there is no safe treatment for infected cats, heartworm testing is still important in determining whether a cat has heartworm disease and in order to rule out other medical conditions that may present similar clinical symptoms as heartworm disease, such as asthma.
Although the presence of mosquitoes that transmit heartworms varies by state and season, heartworm disease is diagnosed year-round in dogs.
Dental disease is the most common disease in dogs and cats, affecting 78 percent of dogs and 68 percent of cats over the age of 3. Dental disease includes any health issue affecting the mouth, including inflammation, tartar, gingivitis and periodontal disease, among other issues.

Periodontal disease is classified by the severity of its impact on teeth and gums: It is divided into four stages, ranging from mild tartar and gingivitis (inflammation of the gums), to gingival recession and degradation of the periodontal ligament, to significant inflammation and loss of teeth. Periodontal disease, when severe, can lead to bacterial infections that spread through the bloodstream to other organs, including the heart, kidneys and liver, causing chronic disease and even organ failure.

Risk factors for developing dental disease in dogs include increasing age and small breed size. Although increasing age is a risk factor for the development of dental disease, it can occur at any age. Prevention early in life will help to reduce the frequency and severity of dental disease later in life. Professional cleanings are vital because they include measures pet owners can’t take at home. These measures include a thorough examination of a pet’s teeth and gums, dental radiographs to evaluate the entire tooth and check for bone loss or abscesses, and the use of special tools to remove tartar from the teeth below the gum line.

Bottom line:

- Since 2006, there has been a 12.3 percent rise in the prevalence of dental disease in dogs, with steady growth each year.
- There has been a 10.2 percent rise in the prevalence of dental disease in cats. However, the numbers have increased only slightly over the last four years.

- In 2010, tartar was the most common dental diagnosis in dogs (toy, small, medium and large breed) as well as cats.
- Periodontal disease grade 1 was found in the top 10 diagnoses of dogs while gingivitis was in the 10 top diagnoses in cats.
- Periodontal disease grade 1 and grade 2 were both in the top 10 diagnoses for small dogs, while toy, medium and large breed dogs mostly presented with dental tartar.
- The top five canine breeds most likely to develop periodontal disease include: Toy Poodle, Yorkshire Terrier, Maltese, Pomeranian and Shetland Sheepdog.
- In 2010, Minnesota, Illinois, Iowa, Nebraska and Washington had the greatest prevalence of dental disease in dogs, while Minnesota, Illinois, Washington, Idaho and Kansas had the greatest prevalence in cats.

Preventive recommendation:

- Regular dental examinations by a veterinarian and annual professional dental cleanings, especially for dogs and cats over the age of 2.
- At-home preventive care including twice-a-week brushing.
- Dental chews, water additives and specially formed dry pet food may also be used to help prevent tartar build-up.

for more information, visit banfield.com
Key takeaway: Dental disease affects 54 percent of all cats and 68 percent of cats over the age of 3. As in humans, any stage of dental disease can be associated with more serious health issues, some of which can impact quality of life.

Key takeaway: Dental disease is the most common disorder affecting dogs and continues to be on the rise. Just as in humans, dental disease has been associated with changes in liver, kidney and cardiac functions.
Otitis externa is inflammation of the outer ear canal; in 2010, it was the most common diagnosis in dogs and cats after dental disease in the Banfield pet population. Otitis externa is an important disease not only because it is common, but because it causes significant discomfort and can become a lifelong problem that is expensive to treat. Dogs are more likely to develop ear infections than cats due to their lifestyle. Swimming, outdoor activities and large amounts of hair in the ears contribute to the increased risk in dogs.

Clinical signs of ear problems exhibited by dogs and cats include: odor, scratching or rubbing of ears and head, discharge in the ears, or redness or swelling of the ear flap or canal. Some pets may show discomfort by shaking their head or tilting it to one side, reacting with pain dramatically when touched around the ears or showing changes in behavior such as depression or irritability.

Otitis externa in dogs and cats can be triggered by many different causes. Underlying problems may include food allergies, ear mites, bacterial or yeast infections or irritation from foreign bodies such as parts of plants, shrubs or trees.

Diagnosis of otitis externa is made using an otoscope to look down into the ear canal and assess the amount of inflammation present, whether the ear drum is involved, and whether there are any foreign bodies, tumors or other potential causes present. Swabs can be taken of the ear canal, smeared on a microscope slide, stained, and examined for bacteria, yeast and mites. A thorough history and physical examination may help to determine the root of the problem, especially in the case of allergies.

Bottom line:
- Otitis externa is in the top 10 diagnoses for both dogs and cats of all sizes, ages and regions of the United States.
- In 2010, 15.8 percent of dogs and 7.4 percent of cats were diagnosed with otitis externa.
- There has been a 34 percent increase in the prevalence of otitis externa in cats, with steady growth each year.
- The prevalence of otitis externa in dogs has increased 9.4 percent since 2006.
- In 2010, Florida, Massachusetts, Maryland, New Jersey and Idaho had the greatest prevalence of otitis externa in dogs, while Mississippi, Iowa, Florida, Maryland and Ohio had the greatest prevalence in cats.
- Purebred canine breeds that are predisposed to otitis externa include: Basset Hound, Beagle, Bulldog (American and English), Cocker Spaniel (American and English), Golden Retriever, Labrador Retriever, Lhasa Apso, Poodle (all sizes), Pug, Shar-Pei and Springer Spaniel (English).

Preventive recommendation:
- Ear cleaning at least 1-2 times weekly; using proper techniques is essential for maintaining healthy ear canals in dogs that have been diagnosed with ear infections (or are at risk for ear infections).
- Certain pets, such as dogs with allergies, may be predisposed to recurrent ear infections. Regular examinations and veterinary-recommended preventive care techniques can help reduce the frequency and severity of ear infections.
Key takeaway: Once an ear infection becomes apparent, it can become a chronic condition, which is expensive to treat. Left untreated, the infection can spread to the middle and inner ear, ultimately resulting in hearing loss.

Key takeaway: Of cats seen at Banfield, 7.4 percent were diagnosed with otitis externa in 2010.
Key takeaway: A dog’s lifestyle can affect the development of otitis externa. Dogs that spend a great deal of time outdoors and take part in activities such as swimming can be at high risk for the disease.

Key takeaway: Feline ear problems can be caused by food allergies, parasites, bacterial infections or from foreign bodies such as parts of plants, shrubs or trees.
Fleas are common external parasites of mammals across the globe, and the prevalence of fleas is highest of all the external parasites. Fleas (as well as ticks) are important external parasites to prevent; their bite causes a great deal of irritation, and they can transmit disease to both animals and humans.

There are many known species of fleas worldwide that can infest mammals, including humans, but the cat flea is by far the most common.

Flea allergy dermatitis is one of the most common skin conditions in dogs and cats. As fleas bite to eat, they inject saliva under the skin causing an irritation that can lead to scratching, hair loss and infections. In addition to the irritation caused by the bite, fleas can also transmit tapeworms and spread certain infectious diseases.

Large numbers of fleas can even consume so much blood that a puppy, kitten, or a small pet can die as a result of blood loss (flea anemia).

Ticks

Ticks are small insects that live by sucking blood from mammals such as animals and humans. They are found in most parts of the United States and can transmit diseases such as Lyme disease or Rocky Mountain Spotted Fever to dogs, cats, humans and other mammals. These diseases can potentially be life-threatening.

One of the greatest risks that ticks pose to pets is the transmission of Lyme disease. Lyme disease is prevalent across the country with the highest prevalence in the Eastern seaboard, the Great Lakes region and in the West, especially in Northern California, Oregon and Washington.

Clinical signs most commonly observed in pets with Lyme disease include: red area where tick was attached (often unnoticed), fever, shifting leg lameness, joint swelling, enlarged lymph nodes, anorexia and general depression.

Lyme disease can be a long-term, painful and potentially debilitating disease which is much easier to prevent than treat.

Bottom line:

- In 2010, fleas were among the most common parasites found in both dogs and cats.
- Overall, the prevalence of flea infestation in dogs has increased 16 percent with slow but steady growth since 2006.
- Since 2006, cats showed a 12 percent increase in the prevalence of flea infestation, with increases each year.
- There was a 6 percent rate of increase in tick infestations in dogs over the past five years.
- The prevalence of fleas increases through spring and summer before peaking in early fall and decreasing in winter.
• October is the peak month for fleas in both dogs and cats, while May and June are the peak months for ticks in both dogs and cats.

• In both dogs and cats, fleas are generally more common in the Southeast and along the West Coast. In 2010, South Carolina, Oklahoma, Arkansas, Florida and Alabama had the greatest prevalence of fleas in dogs, while Oregon, Washington, Oklahoma, Florida and Arkansas had the greatest prevalence of fleas in cats.

• In 2010, Arkansas, Oklahoma, Florida, Tennessee and Massachusetts had the greatest prevalence of ticks in dogs, while Arkansas, Massachusetts, Rhode Island, Tennessee and New Hampshire had the greatest prevalence of ticks in cats.

• The number of dogs diagnosed with Lyme disease has more than doubled since 2006. In 2010, Lyme disease was detected in more than 11,000 dogs seen in Banfield hospitals.

Prevention recommendation:

• Many suitable products are available for the prevention and treatment of fleas. These are available in the form of shampoos, rinses, sprays, mists/fogs, chewable tablets and spot-on treatments. Before selecting a product, pet owners should work directly with a veterinarian to ensure the selected product is appropriate for their pet’s lifestyle.

• Pet owners should only use flea and tick products that have been registered and approved for use by the U.S. Environmental Protection Agency (EPA).

• Prevention of tick infestation involves environmental management (such as building fences and cutting grass to reduce access to tick habitat) and application of approved products to animals or the environment.

• When returning from outdoor activities, a pet’s skin and coat should be inspected in order to identify fleas and ticks.

• Some ingredients in flea and tick preventives are not safe for use in cats. Pet owners with both dogs and cats in the home should discuss proper preventive medications with their veterinarian to eliminate any health risks to cats.

DID YOU KNOW?

► Fleas live in areas frequented by animals and humans and seek out dark, warm, humid places—usually carpets, bedding, under furniture or in garden debris.

► Physical removal of a tick using tweezers within 24 to 48 hours is thought to prevent transmission of most tick-carried diseases.

► Under the right conditions, fleas are prolific breeders; female fleas can lay up to 2,000 eggs in their lifetime.
**2010 Flea & Tick | Dog | 5-Year Trend**

**Cases (per 10,000)**

Key takeaway: Since 2006, flea prevalence has increased 16 percent in dogs.

**2010 Flea & Tick | Cat | 5-Year Trend**

**Cases (per 10,000)**

Key takeaway: Fleas have steadily increased in prevalence in cats, nearly 12 percent over the past five years.
2010 Fleas | Dog
Cases (per 10,000)

Risk Level
- High
- Medium
- Low
- No Banfield hospital

2010 Fleas | Cat
Cases (per 10,000)

Risk Level
- High
- Medium
- Low
- No Banfield hospital
Key takeaway: October is the peak month for fleas in dogs and cats, while May and June are peak months for ticks in dogs and cats.

Key takeaway: Early prevention in spring is important for minimizing flea infestation in the peak fall season. By the time pet owners see fleas, they may already be established in the household.
Internal parasites are important diagnoses as they can cause significant discomfort to pets as well as pose a zoonotic disease risk (they can be transmitted from animals to humans). Some of the most common internal parasites carry a zoonotic risk.

**Roundworms and Hookworms**

Roundworms and hookworms are zoonotic parasites that inhabit the intestinal tract of dogs and cats. While most common in puppies and kittens, infection can occur in dogs and cats of all ages. The mouthparts of hookworms attach to the pet’s small intestine allowing them to feed on the pet’s blood. Roundworms and hookworms can cause mild to extreme illness in pets and even death in some cases.

Most pets infected with roundworms and hookworms show no signs of infection. Some pets, especially puppies or kittens, become noticeably ill from roundworms and hookworms. Clinical signs most commonly observed in pets severely infected with roundworms and hookworms include: vomiting, severe weight loss, loss of appetite, swollen stomach, severe anemia and even death.

**Tapeworms**

Tapeworms are long, flat, segmented parasites that live in the small intestines of dogs, cats, domestic animals and wildlife. Tapeworms do not have a mouth; instead, they attach to the inside of the intestine with suckers. Some also have hooks to aid attachment. Pets infected with tapeworms may not show any clinical symptoms; pet owners usually notice tapeworm segments around the anal area or on the surface of the stool. The segments may move or appear as grains of rice caught in the hair around the rectum. They may also be found in places where infected pets rest and sleep.

**Whipworms**

Whipworms live in the intestines of dogs, coyotes and wolves. Cats may also become infected with whipworms, but it is more common in dogs. Adult whipworms are shaped very thin at the front and become wider toward the rear. As with roundworms and hookworms, many pets infected with whipworms will initially show no sign of infection. However, whipworms can cause mild to extreme illness in pets and in some cases lead to death. Whipworm infection can lead to bloody diarrhea, severe weight loss, dehydration and severe anemia. Whipworms can cause disease in humans, however, there is no evidence they are transmitted from animals to humans.

**Who in the family is at risk?**

All human family members are potentially at risk from zoonotic parasites. The presence of dogs in a household, especially puppies, increases this risk due to their soiling habits.

Cats can also transmit zoonotic parasites, but due to their tendency to defecate in one area and bury their feces, exposure is less likely. Children run a higher risk of contracting a parasite due to their play habits, attraction to pets and pica (eating dirt). In addition to regular deworming of pets, proper hygiene is one of the best ways to reduce the risk of zoonotic diseases.
Bottom line:

- There has been a 30 percent increase in hookworm prevalence in dogs and a 3.5 percent increase in prevalence in cats since 2006.
- Over the past five years, there has been an 8 percent increase in whipworm prevalence in dogs. Although whipworm infection remains uncommon in cats, there has been a 27 percent increase.
- Since 2006, there has been a 4.6 percent decrease in roundworm prevalence in dogs and 12.6 percent rise in prevalence in cats.
- Tapeworm remains the most common parasite in cats despite a 15.5 percent decrease in prevalence over the past five years.
- Roundworms and whipworms are more prevalent in the Eastern and Midwestern United States. Tapeworms are more widely distributed geographically, and hookworms are most common in the Southeast in dogs.
- In 2010, Alabama had the highest prevalence of roundworm, and second highest prevalence of whipworm and tapeworm in dogs; it is also one of the top five states with the highest prevalence of hookworm and tapeworm in cats.
- In 2010, Arkansas had the highest prevalence of whipworm and tapeworm in cats; it is also in the top five states for hookworm, whipworm and roundworm in dogs.
- Other states with high prevalence of internal parasites for both dogs and cats include: Mississippi, Texas and South Carolina.

Preventive recommendation:

- Deworming medication, administered by a veterinary professional, is the recommended way to prevent internal parasites. The recommended frequency of deworming varies depending on the life stage and individual environment of the pet.
- Quickly clean up after pets to remove potentially infective eggs from the environment before they spread.
- Children should be discouraged from eating soil. Sand boxes should be covered when not in use and potentially contaminated areas avoided.
- Practice good hygiene in order to reduce the risk of zoonotic transmission.

DID YOU KNOW?

- The treatment, control and prevention of internal parasites and the diseases they cause needs to remain at the forefront of veterinary medicine, especially given their zoonotic potential.
Key takeaway: With dogs in a household, especially puppies, there is a greater risk of transmitting zoonotic parasites due to canine soiling habits. Roundworm and hookworm can cause mild to extreme illness in pets and in some cases, death. All four internal parasites can infect humans under certain conditions.

Key takeaway: The prevalence of internal parasites has increased in both dogs and cats since 2006. Tapeworm has consistently been the most prevalent worm in cats, but has shown a decline in the past two years.
**SECTION SIX**

**INTERNAL PARASITES—GEOGRAPHIC TRENDS**

### 2010 Roundworm | Dog

**Cases (per 10,000)**

- **High**
- **Medium**
- **Low**
- **No Banfield hospital**

### 2010 Roundworm | Cat

**Cases (per 10,000)**

- **High**
- **Medium**
- **Low**
- **No Banfield hospital**
- **No cases reported**
**2010 Internal Parasites | Dog | 12-Month Trend**

Cases (per 10,000)

Key takeaway: February is the most common month for whipworm in dogs. Year-round prevention is important in dogs and cats because parasite infections are diagnosed in all seasons.

**2010 Internal Parasites | Cat | 12-Month Trend**

Cases (per 10,000)

Key takeaway: February is the most common month for tapeworm, while July is the most common month for roundworm, hookworm and whipworm in cats.
This report will be beneficial in educating pet owners and veterinarians about the risk and prevalence of diseases affecting dogs and cats, and as a result, help improve the overall health of pets in the United States.

In addition to the rising risk of preventable diseases, one of the biggest challenges facing the veterinary profession is the medical care of cats. In 2010, Banfield Pet Hospital treated nearly 1.7 million more dogs than cats. As demonstrated in this report, cats are just as susceptible to disease and parasites as dogs. However, cats are a severely underserved population. Diabetes is more prevalent in cats than dogs and has risen by 16 percent in cats since 2006. More than 68 percent of cats over the age of 3 suffer from dental disease, with a 10.2 percent increase since 2006. In addition, there has been a 34 percent increase in otitis externa in cats over the past five years. These findings demonstrate the necessity of providing frequent medical care for cats.

To help reduce the risk of diseases in both dogs and cats, Banfield is committed to working in partnership with pet owners to focus on preventive care. Banfield believes preventive care improves the quality and longevity of a pet’s life by reducing the risk for contracting serious, costly and sometimes fatal diseases. This is why Banfield emphasizes the importance of routine veterinary care at least twice a year, which allows for early disease diagnosis and helps pets remain healthy during all life stages. Looking forward, Banfield hopes the State of Pet Health 2012 Report will report a decrease in many of the preventable diseases highlighted, as well as an increase in the number of cats receiving preventive care.
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