



2017-2018 Edition

**AVMA PET OWNERSHIP
AND DEMOGRAPHICS
SOURCEBOOK**





2017–2018 Edition

AVMA PET OWNERSHIP AND DEMOGRAPHICS SOURCEBOOK

Veterinary Economics Division
American Veterinary Medical Association
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Errata

PP. 42-43

Commas are misplaced or missing in numbers in Table S1_TAB 17.

P. 47

Percentages reported in S1_FIG 20 and accompanying text are incorrect.

S1 Fig 20 for cats is a duplicate of S1 Fig 9 on page 33 and has been corrected.

P. 49

More than two-thirds (36%) of cats owned at year-end 2016 appeared to their owners to be overweight or obese, which is about 21 million fat cats; 16 million appear overweight and under 5 million appear obese.

P. 88

These are the three new questions answered in this section of the 2017 PDS.

P. 89

Another 5% did visit a vet because they administered vaccines to their cats by themselves/at home.

More than two-thirds (70%) of the horse owners whose horses needed anthelmintics were provided “by the barn owner or ourselves.”

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EXECUTIVE SUMMARY

As the collective voice of American veterinarians from all disciplines and walks of life, the American Veterinary Medical Association (AVMA) regularly conducts the largest survey of pet-owning households in the United States. *The Pet Ownership and Demographics Sourcebook (PDS)* reports that research, providing the most comprehensive and authoritative information available examining pet ownership and related habits of U.S. pet-owning households.

In this edition of the *Sourcebook*, readers will find an abundance of data on pets and their owners, identifying trends and attitudes attached to pet ownership in the United States. This includes insights into the size and distribution of pet populations, how these pets are viewed by their owners—and who these owners are, described in terms of where they live, and characteristics of their households. This 2017 edition features responses to questions not asked in any previous AVMA Pet Demographics surveys—on topics including compliance, sterilization and specialist care.

The new survey includes important changes to how the data were sampled, weighted and screened to eliminate potential sources of bias and provide the best and most accurate source of pet data to the veterinary profession. As a result, while comparisons will be made to the 2012 and prior year surveys, such comparisons must be taken carefully. As an example, although the 2017 survey will show a lower population of cats in the United States, one cannot strictly conclude that the cat population is falling, because the changes made in the 2017 survey on sampling, weighting and screening were not in place in the 2012 survey.*

Total Pet Ownership and Pet Populations

The rate of pet ownership in the United States inched up in the time since the previous Pet Demographic Survey: At year-end 2016, 57% of all U.S. households owned a pet, up 1.4% from 2011, when the last survey was conducted. The number of U.S. households owning at least one pet at year-end 2016 is estimated at 71.5 million, while the number owning pets at any time in 2016 was somewhat higher, at 74.4 million. At 59%, the rate of households owning at least one pet sometime during the year was down moderately from 2011, a change attributed to the growth in the general population.

Dogs continue to dominate in popularity among American households. At the end of 2016, some 38% of households nationwide owned a dog—the highest estimated rate of dog ownership since the AVMA began measuring it in 1982. Both

the share and number of dog-owning households grew in the five years since the previous survey, bringing the population of pet dogs to nearly 77 million—up 10% from 2011. Shelters and rescue groups remain the source of the largest share of dogs.

While the rate of cat ownership appeared somewhat static and that of horses and birds has dropped, interest in other, less common pets has taken off. Specialty or exotic pets—fish, ferrets, rabbits, hamsters, guinea pigs, gerbils, other rodents, turtles, snakes, lizards, other reptiles, poultry and other livestock as pets, and amphibians—have seen a jump in rate of ownership, with more than 13% of households now counting such animals as pets.

Of note, and perhaps indicative of a rising interest in backyard chickens, the incidence of poultry owned as pets climbed 23% in five years. In the most recent survey, 1.1% of all households claimed poultry as pets, and the poultry population was 15.4 million. The average number of poultry per household was 11.

Where do America's pets reside? The report finds that the states with the largest number of pet-owning households and the highest pet populations are those with the largest number of households: California, Texas and Florida. Pet-ownership rates, though, remain highest (62%) in the East South Central region, comprised of Alabama, Kentucky, Mississippi and Tennessee. By comparison, the Middle Atlantic region has a 51% rate of pet ownership.

Wyoming, however, was the top state based on highest percentage (72%) of pet-owning households in 2016, followed by West Virginia and Nebraska (71% and 70%, respectively). At 38%, the District of Columbia had the lowest rate of pet ownership, and the state with the lowest percentage of pet-owning households was Rhode Island (45%).

Pet Owner Demographics

Examining the demographics relative to pet ownership, the survey shows a connection between community type and the likelihood of pet ownership: The rate of pet ownership is lowest among city dwellers and highest among people who live in the least urban areas or near/in urban areas with populations below 100,000.

The type of dwelling a household occupies also is related to pet-ownership rates. The highest rates of pet ownership are found among households living in mobile homes (73.8%), followed by houses (65.8%). The lowest rates appear among those living in apartments, condos, duplexes and other multiple-family residences. In 2016 homeowners were more likely to own a pet than were renters.

The composition of a household also has bearing on pet ownership. The survey finds that “family” households remain more likely to own pets than “non-families.” The phrase “the more the merrier” certainly seems to apply to dog, cat, bird and pet horse ownership: The highest rates of dog ownership (55.5%) and cat ownership (32.7%) continue to be among the largest households by size. And, overall, as household size increases, so does the likelihood of owning a pet bird.

Pet ownership differs among racial and ethnic groups. The highest rate of pet ownership overall in 2016 was seen among White households (64.7%), with Latino/Hispanic (61.4%) households next. The lowest rate was found among Black/African-American households (36.9%).

The findings vary, however, for different pet species. Latino/Hispanic households reported the highest rates of dog ownership (44.6%) and pet bird ownership (4.2%). White households showed the highest rate of cat ownership (31.8%), while the highest rate of pet horse ownership was among Native Americans/Asian/Pacific Islanders/Aleutians/Eskimos.

Household income was only slightly higher among pet-owning households compared to all households. Half (50%) of pet-owning households reported incomes of \$55,000 or greater. Across all households, slightly less than half (48%) made more than \$55,000. A higher share of horse owners (56%) and dog owners (52%) had incomes of more than \$55,000, while a smaller share of cat (47%) and bird owners (41%) had incomes above \$55,000.

Pet Health, Veterinary Care Use and Expenditures

The 2017–2018 edition of the *Pet Ownership and Demographics Sourcebook* also looks at who visits a veterinarian, how frequently, and under what circumstances. Survey findings show that dog owners have a higher propensity to obtain veterinary care than do owners of cats, horses, birds or any other type of pet. On average, in 2016, dog-owning veterinary clients made three visits to the veterinarian. Other pet owners sought out the veterinarian, too: Cat-owning veterinary clients made 2.4 visits, and horse-owning clients 2.8 during the year.

More than four-fifths (83%) of all dog-owning households reported visiting the veterinarian at least once in 2016, and 78.8% said they obtain routine/preventive care for their dogs at least once a year. But not all care happens at a veterinarian’s office. Of the dog owners who reported getting routine care sometime in 2016, 21% said this occurred at pet superstores, shelters and humane societies, mobile vans or publicly sponsored clinics.

The study also analyzes how much pet owners paid for veterinary care in 2016, finding that a quarter of pet-owning households spent between \$200 and \$500 at the veterinarian. More than two-thirds of households spent something at the veterinarian. Total household expenditures at veterinary clinics and hospitals in 2016 are estimated at approximately \$28 billion, with three-quarters of this revenue coming from dog-owning households.

The survey findings on dog-owning veterinary clients who reported obtaining routine care show that a routine-care canine visit costs about \$145 on average. The amount paid for routine-care visits in other settings (pet superstores, shelters, mobile vans, etc.) was lower, apparently because providers did not perform all of the services included in canine preventive care guidelines.

Finally, the survey reinforces the importance of the special relationship that pet owners have with their veterinarian. The overwhelming majority (85%–90%) of all pet owners who visit the veterinarian have a “regular” veterinarian they prefer. These clients cite the quality of the care provided and the manner in which the veterinarian handles the animal as reasons they favor this pet-care provider. This is true across species. Dog, cat and bird owners all chose “knowledgeable, high-quality care” and “kind, compassionate” handling of their pets as the top two reasons they preferred their regular veterinarian.

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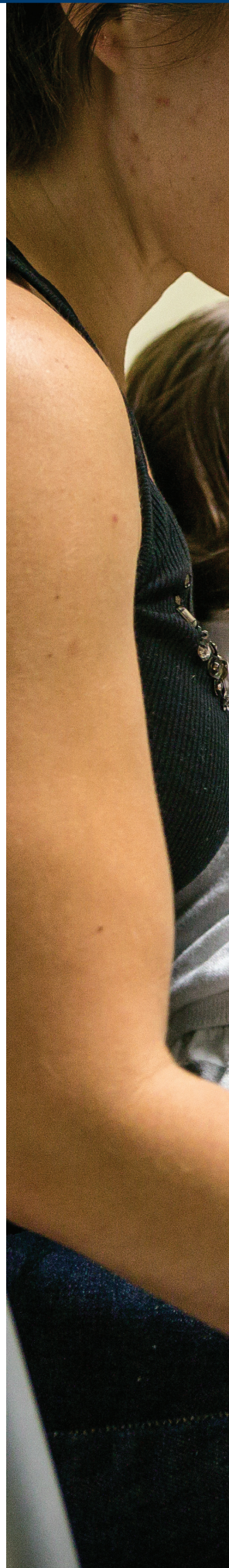
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section 1

TOTAL PET OWNERSHIP AND PET POPULATIONS





Section 1 Overview: Total Pet Ownership and Pet Populations

At year-end 2016, 57% of all U.S. households owned a pet. While this is well within the trend over the past decade, it represents a 1.4% increase in the rate of household pet ownership on December 31, compared to 2011 (S1_TAB 1).

As found to be trending, most pet-owning households (61%) owned more than one pet. The average number of dogs plus cats, pet birds and pet horses per pet-owning household in 2016 was 2.2 pets on a head-count basis, up significantly from 1.5 pets per pet-owning household in 2011.

The mix of pets also continues to change. The ownership of dogs, pet fish, pet poultry and pet reptiles is higher than ever before, but cat, pet horse, pet rabbit and pet ferret ownership rates continue to decline (S1_FIG 1).

Dogs are now the most popular household pet; 38% of all households nationwide owned a dog at year-end 2016. That is the highest estimated rate of dog ownership since the AVMA began measuring it in 1982. Compared to five years ago, the share of households owning a dog is 5% higher, and the number of dog-owning households is up by 11%. The dog population at year-end 2016 was the highest estimated to date at about 77 million, up 10% from 70 million in 2011.

One-quarter (25%) of U.S. households owned a cat at year-end 2016. While this is a lower rate of cat ownership than five years ago, it is within the range of cat ownership observed in recent decades (S1_FIG 1). But only 4% of the households who owned a cat during 2016 replied that they were planning to acquire an additional cat in the coming year.

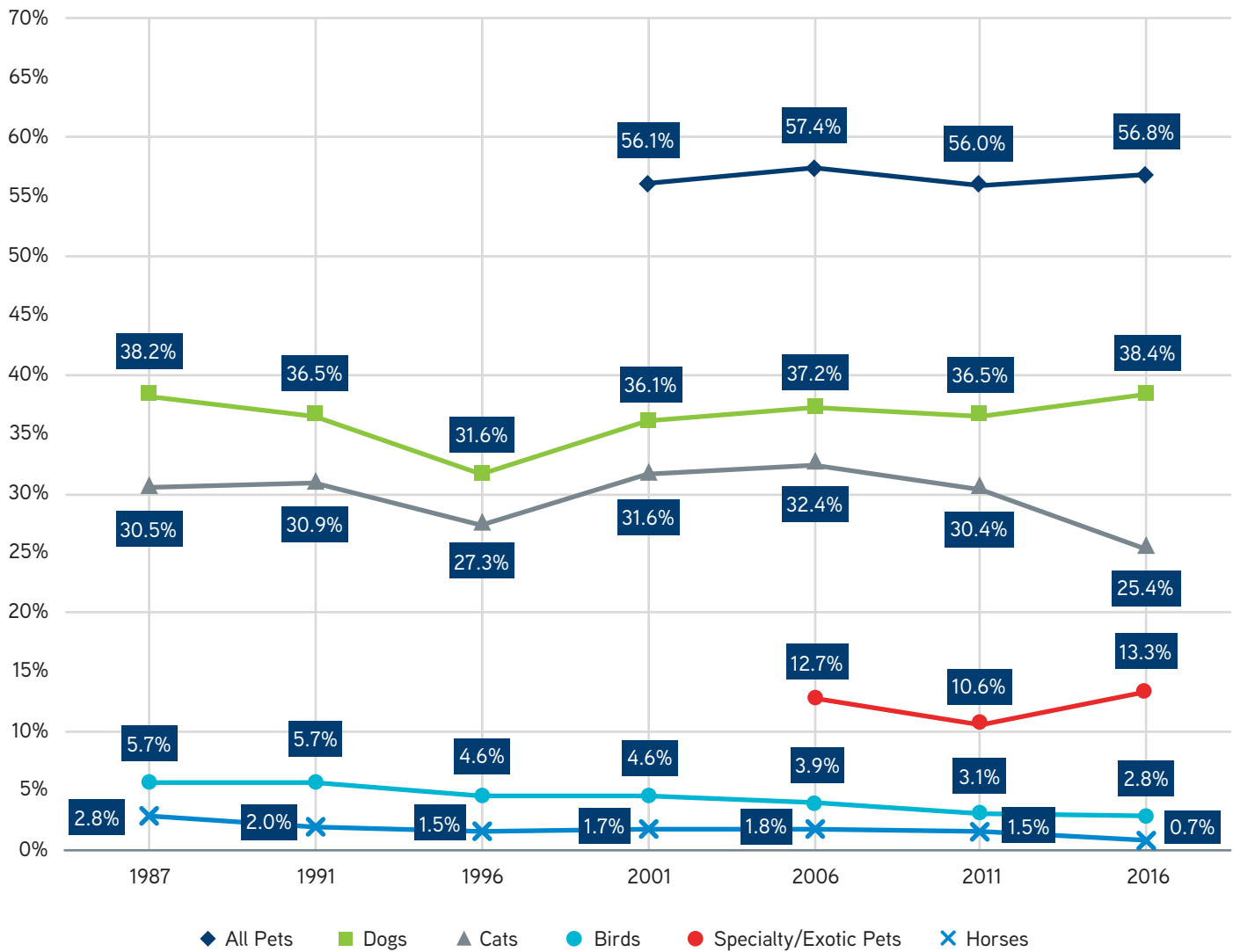
Pet bird and pet horse ownership rates also continue to decline (S1_FIG 1). At year-end 2016, only 0.7% of all U.S. households owned pet horses, compared to the rate of 1.5% estimated in 2011 (S1_TAB 1).

Finally, more households than ever appear to own specialty or exotic pets. These are all the other types of pet species: fish, ferrets, rabbits, hamsters, guinea pigs, gerbils, other rodents, turtles, snakes, lizards, other reptiles, poultry as pets, livestock as pets, and amphibians. More than 13% of U.S. households owned a specialty or exotic pet at year-end 2016 (S1_TAB 1).

S1_TAB 1. U.S. HOUSEHOLD PET OWNERSHIP RATES ON DECEMBER 31, 2006, 2011, AND 2016

	2006	2011	Compared to 2006	2016	Compared to 2011
	% of HHs	% of HHs		% of HHs	
All Pets	57.4	56.0	-2.4%	56.8	+1.4%
Dogs	37.2	36.5	-1.9%	38.4	+5.2%
Cats	32.4	30.4	-6.2%	25.4	-16.4%
Birds (Excl. Pet Poultry)	3.9	3.1	-20.5%	2.8	-9.7%
Pet Horses	1.8	1.5	-16.7%	0.7	-53.3%
Specialty or Exotic Pets	12.7	10.6	-16.5%	13.3	+25.5%

S1_FIG 1. PERCENT OF HOUSEHOLDS OWNING PETS IN THE UNITED STATES, DECEMBER 31, 1987–2016



The largest percentage of pet owners ever (80%) reported that they consider their pets (dogs, cats, pet birds and/or pet horses) to be family members, compared to 63% in 2011. Another 17% consider their pets to be companions. Only 3% consider their pets to be property under their care.

In 2016, 63% of the persons most responsible for the three main furry pets (dogs, cats and/or pet horses) were women and 37% were men in contrast with the estimated 80% women/20% men in 2011. The rise in the rate at which men are primarily responsible for pet care may reflect changing social mores. But it might also simply reflect the fact that there is no gender bias in the 2017 PDS survey sample. Eighty percent of the respondents to the 2011 survey were female, and the gender of the person responsible for pet care was deduced from the gender of the respondent. The 2017 PDS surveyed men and women at the rates each gender represents in the population, and the gender of the person responsible for each type of pet's care was an explicit question.

S1_TAB 2. ESTIMATED PET POPULATIONS ON DECEMBER 31, 2006, 2011 AND 2016

	2006	2011	Percent Change from 2006	2016	Percent Difference from 2011
Dogs	72,144,000	69,926,000	-3%	76,811,305	10%
Cats	81,721,000	74,059,000	-9%	58,385,725	-21%
Pet Birds	11,199,000	8,300,000	-26%	7,538,000	-9%
Pet Horses	7,295,000	4,856,000	-33%	1,914,394	-61%
Specialty and Exotic	102,944,000	84,642,000	-18%	106,735,377	26%
Pet Fish	75,898,000	57,750,000	-24%	76,323,222	32%
Pet Poultry	4,966,000	12,591,000	154%	15,367,327	22%
Pet Reptiles	3,854,000	5,298,000	37%	6,032,066	14%

Where the Pets Are

The states with the largest number of pet-owning households and the highest pet populations are, of course, the states with the largest number of human households: California, Texas and Florida.

Pet ownership rates, however, continue to be highest in the heartland. The highest pet ownership rates (62%) are in the East South Central region (Alabama, Kentucky, Mississippi and Tennessee). Rates of pet ownership are also about 60% in other heartland and mountain states, especially west of the Mississippi River in the West North Central and West South Central regions, and in the Mountain region (Arizona, Colorado, Idaho, Montana, New Mexico and Wyoming). People who live in single-family houses are more likely to own pets, and apartment, townhouse or condo dwellers are less likely to own pets. Thus, densely populated urban states like Washington, D.C. and Rhode Island continue to have the lowest rates of pet ownership.

Pet Demographics

There are more overweight and obese pets in the United States than there should be. The 2016 measures of canine and feline obesity reported by veterinarians to the Association for Pet Obesity Prevention showed that fewer than half of dogs and cats—44% and 37%, respectively—seen by veterinarians were at normal, healthy weights (<https://petobesityprevention.org/2016/>). Similarly, but more optimistically, the AVMA's 2017 Pet Ownership and Demographics survey found that about half of dogs, cats and pet horses were reported by their owners to appear to be of normal, healthy weight.

Summaries of the trends by pet species category are shown next.

Dogs

With a population of approximately 77 million at year-end 2016, dogs are apparently America's favorite pet. In 2016, 38%, or 48 million households, owned a dog—up 11% from 2011.

Six out of 10 dog-owning households owned just one dog, 28% owned two, 8% owned three and 4% owned four or more at year-end 2016. 85% of dog owners consider their dogs to be family members and 14% consider them companions.

More than half of the dog population was under the age of six in 2016, including the 10% that were not yet a year old. As usual, 15% were 11 years old or older.

In 2016, 51% of dogs were reported by their owners to appear to be at healthy weight; 28% appeared to be overweight; 14% underweight; and 6% were reported to appear obese.

Cats

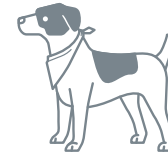
A decade ago, in 2006, a third of U.S. households owned at least one cat. By year-end 2016, just over one-quarter (25%) of American households owned at least one cat, down from 30% in 2011.

People kept fewer cats in 2016 than typical in the past. The percentage of households with just one cat in 2016 was 53%, compared to 49% in 2011, and the share with four or more cats is also lower: 9% in 2016 compared to 11% in 2011. The number of cats per cat-owning household was 1.8 in 2016. The 2016 population of cats in U.S. households is estimated to be 58.3 million.

Females remain the primary caretakers of cats (63%). This means that surveys with more female than male respondents could erroneously suggest that there were higher rates of cat ownership than in fact. The good news is that we now know that men are more likely to own cats, and more likely to be primarily responsible for cat care than previously thought.

Half (50%) of cats were reported by their owners to appear to be at healthy weight while 28% appear overweight and 8% appear obese, according to their owners; 14% appear to be underweight.

Three-quarters (76%) of all cat-owning households feel that their cats are part of the family and 20% feel they are companions; 3% consider them as property under their care.



38% Households owned one or more dogs at year-end 2016

85% Consider their dogs to be family members

54% Persons responsible for dog care are female

15% Dogs 11 years or older

34% Dogs appear to be overweight or obese



25% Households owned one or more cats at year-end 2016

63% Persons responsible for cat care are female

36% Cats appear overweight or obese

76% Consider their cats family members

Birds

Although the rate of household ownership of pet birds apparently continues to decline, the rate of household ownership of poultry as pets continues to rise. A decade ago, just under 4% of U.S. households owned a pet bird (3.9%). At year-end 2016, just under 3% (2.8%) did. Meanwhile, the percentage of households owning poultry as pets rose dramatically from 0.4% at year-end 2006 to 1.1% in 2016.

Taken together, the population of avian pets—including poultry owned as pets—rose to about 23 million by December 31, 2016, compared to 16 million a decade earlier (S1_TAB 3).

Horses

At year-end 2016, less than 1% (0.7%) of U.S. households owned or share-owned horses strictly as pets. This translates into almost 2 million pet horses (1,914,393) estimated to be in the United States at year-end 2016. But more than 2.1 million horses were owned at some time during 2016.

The 2016 survey also found a relatively low 25% of pet horse-owning households having three or more horses on December 31. A decade earlier, more than 40% of surveyed horse owners had three or more “pet” horses.

Pet horses are considered family members by 47% of households, and companions by 42%.

Women continue to comprise the majority (65%) of those most responsible for pet horse care, but the share of men responsible for the horses is now known to be much higher than previously measured.



3%

Households owned one or more pet birds

1%
(1.4 million)

Households owned pet poultry

11

Average number of poultry owned as pets

23
million

Avian pets (birds + pet poultry) at year-end 2016



<1%

Households owned one or more horses as pets at year-end 2016

1.9
million

Pet horses owned at year-end

2.1
million

Pet horses owned at some time during 2016

42%

Consider their horses companions

55%

Persons responsible for horse care are female

Specialty and Exotic Pets

All other types of pet species: fish, ferrets, rabbits, hamsters, guinea pigs, gerbils, other rodents, turtles, snakes, lizards, other reptiles, poultry as pets, livestock as pets, and amphibians are known as specialty or exotic pets. More than 14% of U.S. households owned at least one specialty or exotic pet at year-end 2016. This rate is 25% higher than the 11% who owned a specialty or exotic pet in 2011.

Fish are increasingly popular, owned by more than 8% of all U.S. households in 2016 compared to 6.5% in 2011. The pet fish population was 76 million at year-end 2016.

And as suggested above, in 2016 household ownership of poultry as pets also rose to the highest rate recorded. 1.4 million U.S. households owned an average of 11 poultry as pets, for an estimated population of more than 15 million pet poultry in 2016. And 3.7 million households owned pet reptiles in 2016. At year-end 2016, there were an estimated 6 million-plus pet lizards, snakes, turtles and other reptiles owned as pets by U.S. households.

Rabbits and ferrets, however, are less popular than before. The estimated pet rabbit population has fallen from a high of more than 6 million at year-end 2006 to just over 2 million at year-end 2016. And the estimated pet ferret population has fallen from a high of more than 1 million at year-end 2006 to about half-a-million at year-end 2016.

The number of U.S. households owning at least one pet at year-end 2016 is estimated to be 71.5 million. Furthermore, 59% of all U.S.

S1_TAB 3. TRENDS IN SPECIALTY AND EXOTIC PET OWNERSHIP AT YEAR-END, 1996–2016

	Percentage of U.S. Households Who Owned Specialty or Exotic Pets				
	1996	2001	2006	2011	2016
Fish	6.3%	6.1%	7.8%	6.5%	8.3%
Rabbits	1.9%	1.7%	1.6%	1.2%	1.2%
Ferrets	0.4%	0.5%	0.4%	0.3%	0.3%
Reptiles	1.5%	1.6%	2.0%	2.5%	2.9%
Pet Livestock	0.5%	0.4%	0.6%	0.6%	0.4%
Pet Poultry	0.3%	0.3%	0.4%	0.9%	1.1%
	Specialty and Exotic Pet Populations on December 31				
	1996	2001	2006	2011	2016
Fish	55,554,000	49,251,000	75,898,000	57,750,000	76,323,222
Rabbits	4,940,000	4,813,000	6,171,000	3,210,000	2,243,609
Ferrets	791,000	991,000	1,060,000	748,000	500,801
Reptiles	3,479,000	2,875,000	3,854,000	5,298,000	6,032,066
Pet Livestock	6,083,000	2,936,000	10,995,000	5,045,000	1,785,618
Pet Poultry	4,423,000	2,894,000	4,966,000	12,591,000	15,367,327

chapter 1: **ALL PETS**



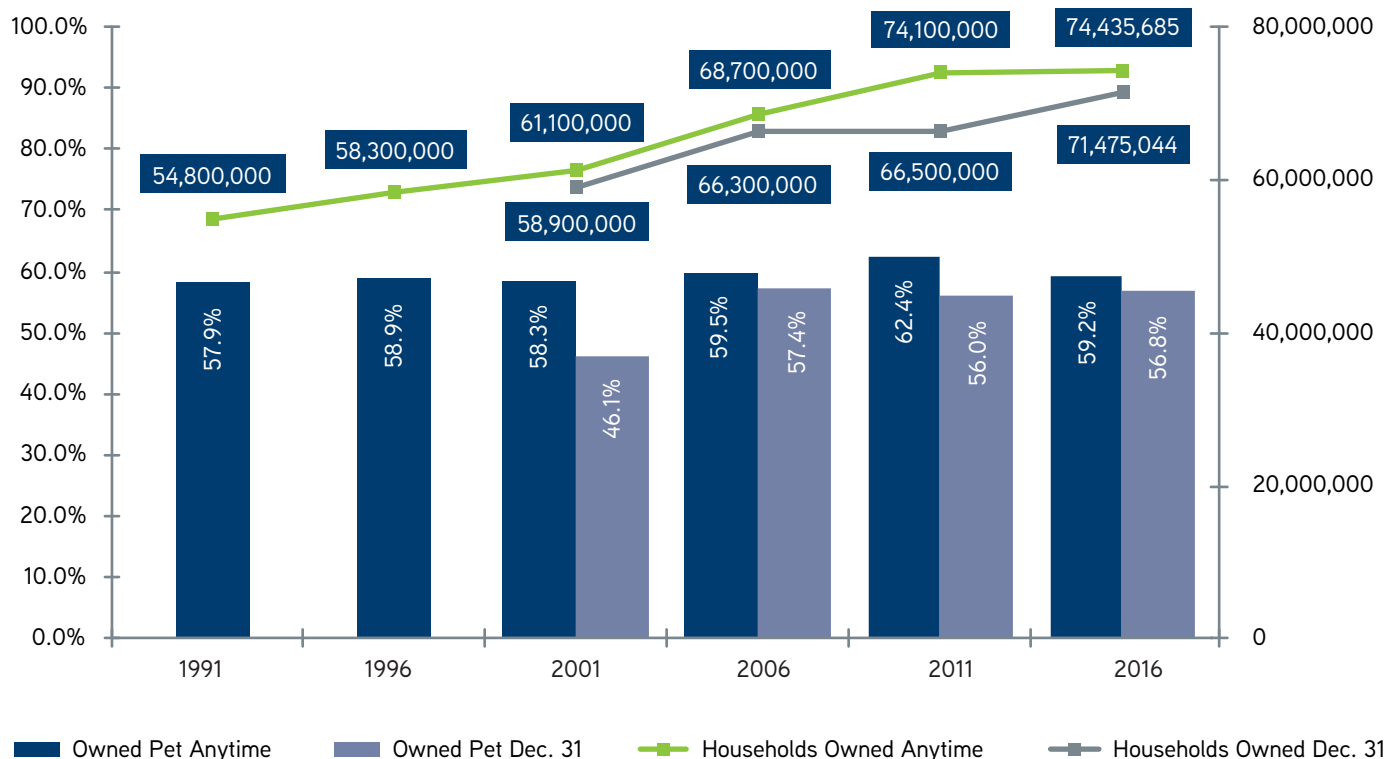
The percent of households who owned at least one pet at year-end is slightly up from 56% in 2011 to 57% in 2016.

Households owned at least one pet sometime during the year. That rate is down slightly from the estimated pet ownership rate in 2011 (S1_FIG 2). Due to general population growth, although the rate is lower, the number of U.S. households owning pets at any time in 2016 grew to 74.4 million.

The percent of households who owned pets on December 31 is used to determine pet population statistics. The number of households who owned pets at any time during 2016, however, is the basis for estimating the use of and spending on veterinary care. One reason for that is to account for end-of-life care. For example, if a household had one dog that died during the year, the data about the care provided for that dog are counted only in “owned dogs anytime” data.

Pet owners now view their pets as “members of our family” in eight out of 10 (80%) households (S1_TAB 4). This average mainly reflects how households feel about their dogs and cats, mainly because more households own dogs or cats than any other pet.

S1_FIG 2. PERCENT AND NUMBER OF HOUSEHOLDS WHO OWNED AT LEAST ONE PET



Broken out, 85% of dog owners and 76% of cat owners consider them to be “members of our family.” More than half of pet bird owners (57%) and just under half of the pet horse owners (47%) consider these pets to be “members of our family.” Horses are the pet most likely to be considered a “companion.”

Otherwise, the rise in the percent of those who view pets as family matches the decline in the percent viewing pets as “pet/ companion.” Note the slight change in wording in the 2017 PDS question about the “human-animal bond.” In previous PDS studies, the second option to the question, “Do you consider your pet to be...” was “pet or companion.” For this survey, because all pets are “pets,” the second option was worded simply, “companion.” The percent of households viewing their pets as “property...” did not change since 2011. The 2016 percent viewing their pets as family might simply be a more accurate measure due to the correction of the questionnaire.

S1_TAB 4. HOW PET OWNERS VIEWED THEIR PETS, 2016

	Members of Our Family	Companion	Property Under Our Care
Dogs	85%	14%	1%
Cats	76%	20%	3%
Pet Birds	57%	33%	10%
Pet Horses	47%	42%	11%
Average	80%	17%	3%

As previously indicated, the share of households nationwide who owned pets on December 31, 2016, was 57% (S1_TAB 5). The percentage of households who own pets varies somewhat by region and state.

Across the nine census regions, as in the past, the East South Central region has the highest percentage of pet-owning households (62%). The Mountain (60%), West North Central (60%), West South Central (59%), and East North Central (59%) regions were also higher than the national average. The Pacific (58%) and South Atlantic (56%) regions were close to the national average. The Middle Atlantic (51%) region has a lower percentage than the national average, as do the New England states, where the percentage of households owning pets is the lowest (54%).

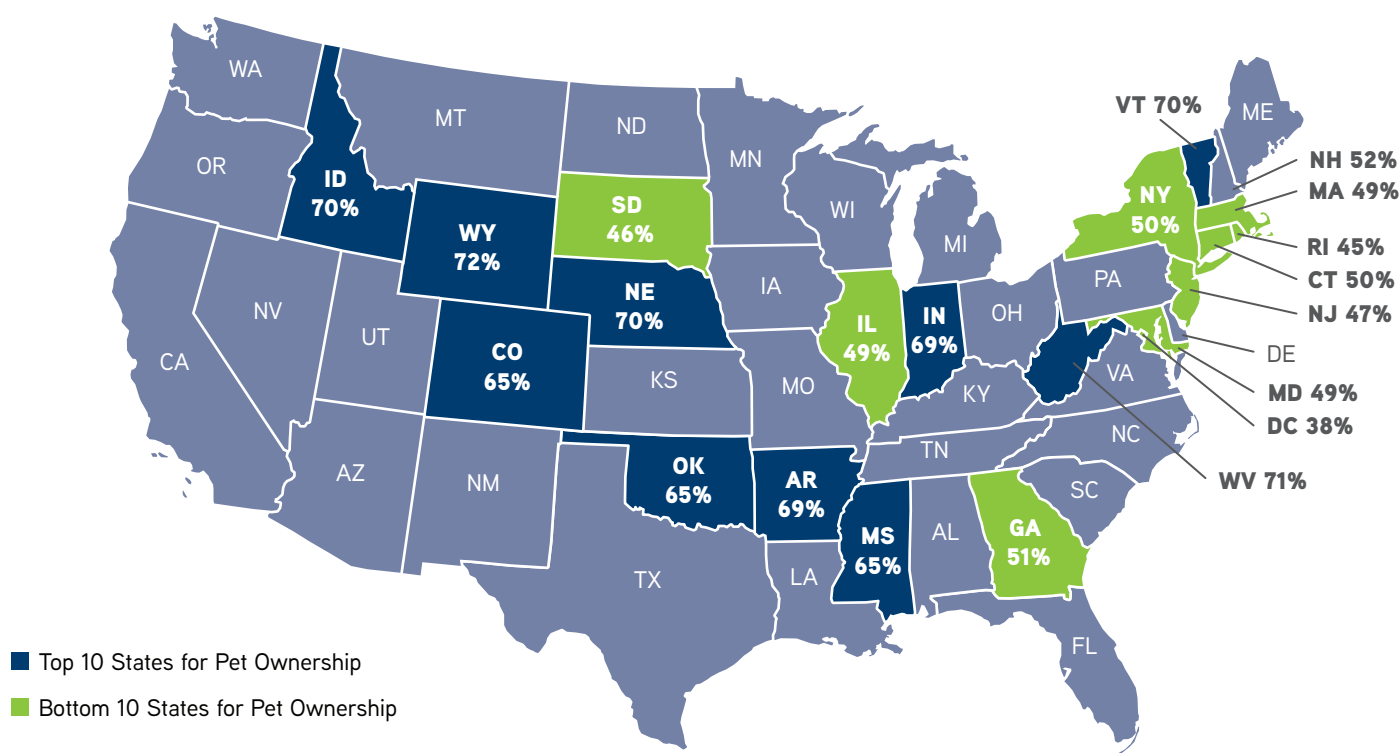
The states with the highest number of pet-owning households were, as expected, the more populous states: California (8.0 million), Texas (5.9 million) and Florida (4.6 million).

The number of households who owned pets in each state is estimated from the survey data by multiplying the percentage of responding households in each state who owned pets by the total number of households in each state according to the 2016 Current Population Survey (S1_TAB 5). The total pet population in each state is estimated by multiplying the number of households in each state by the average number of pets per household reported by respondents in each state. See Appendix A for details about the statistical methods used in this study

Pet ownership is highest in more rural states (S1_TAB 5). The 10 states that had the highest percentage of pet-owning households in 2016 were Wyoming (72%), West Virginia (71%), Nebraska (70%), Vermont (70%), Idaho (70%), Indiana (69%), Arkansas (69%), Mississippi (65%), Oklahoma (65%) and Colorado (65%) (S1_FIG3).

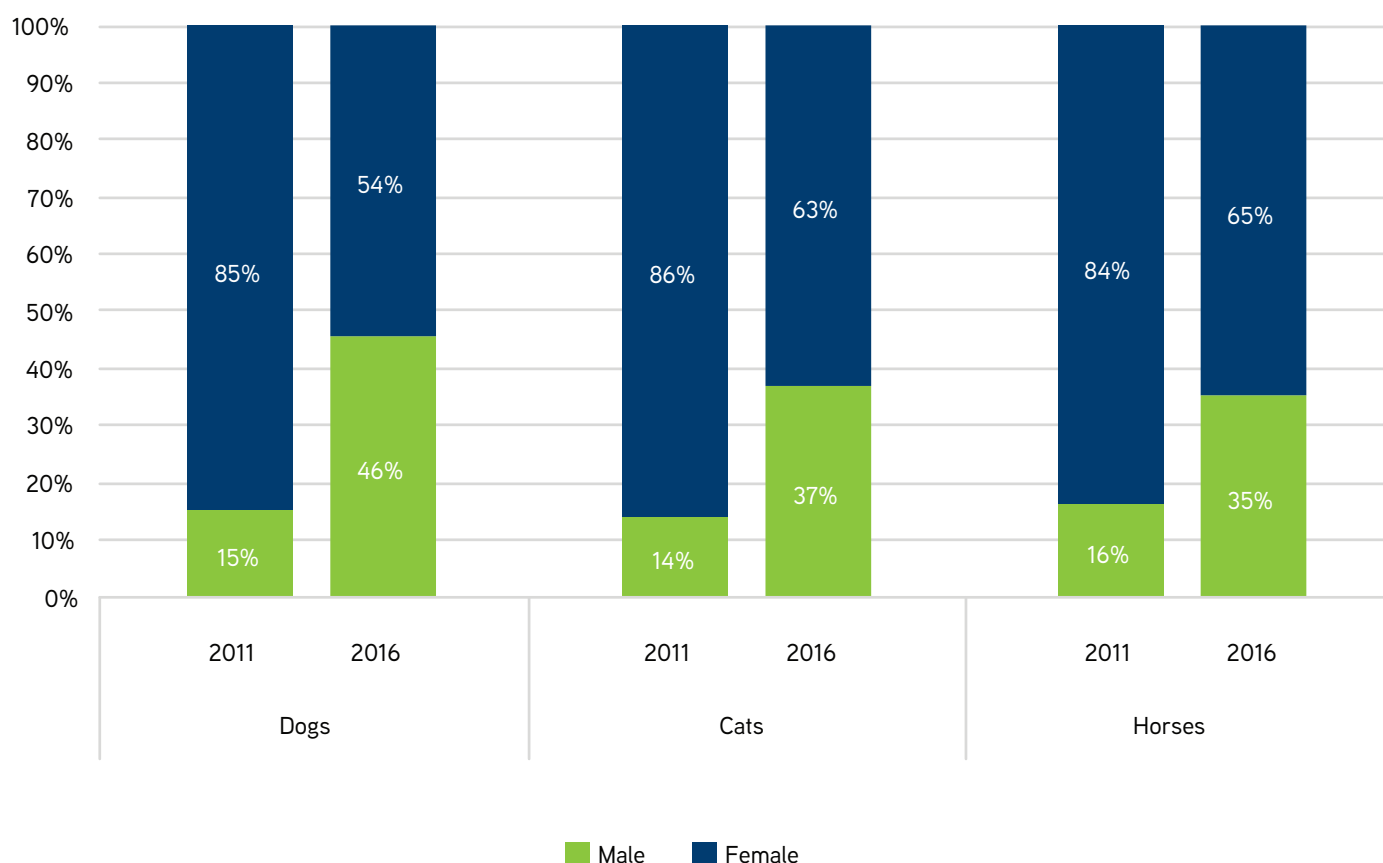
Pet ownership is generally lower in urban states. The District of Columbia has the lowest rate of pet ownership (38%). The 10 states with the lowest percentage of pet-owning households were Rhode Island (45%), South Dakota (46%), New York (50%), New Jersey (47%), Maryland (49%), Illinois (49%), Massachusetts (49%), Connecticut (50%), Georgia (51%) and New Hampshire (52%).

S1_FIG 3. TOP AND BOTTOM 10 STATES ACCORDING TO PERCENT OF HOUSEHOLDS WHO OWNED PETS ON DECEMBER 31, 2016





S1_FIG 4. GENDER OF THE PERSON PRIMARILY RESPONSIBLE FOR CARE, BY PET, 2011 AND 2016



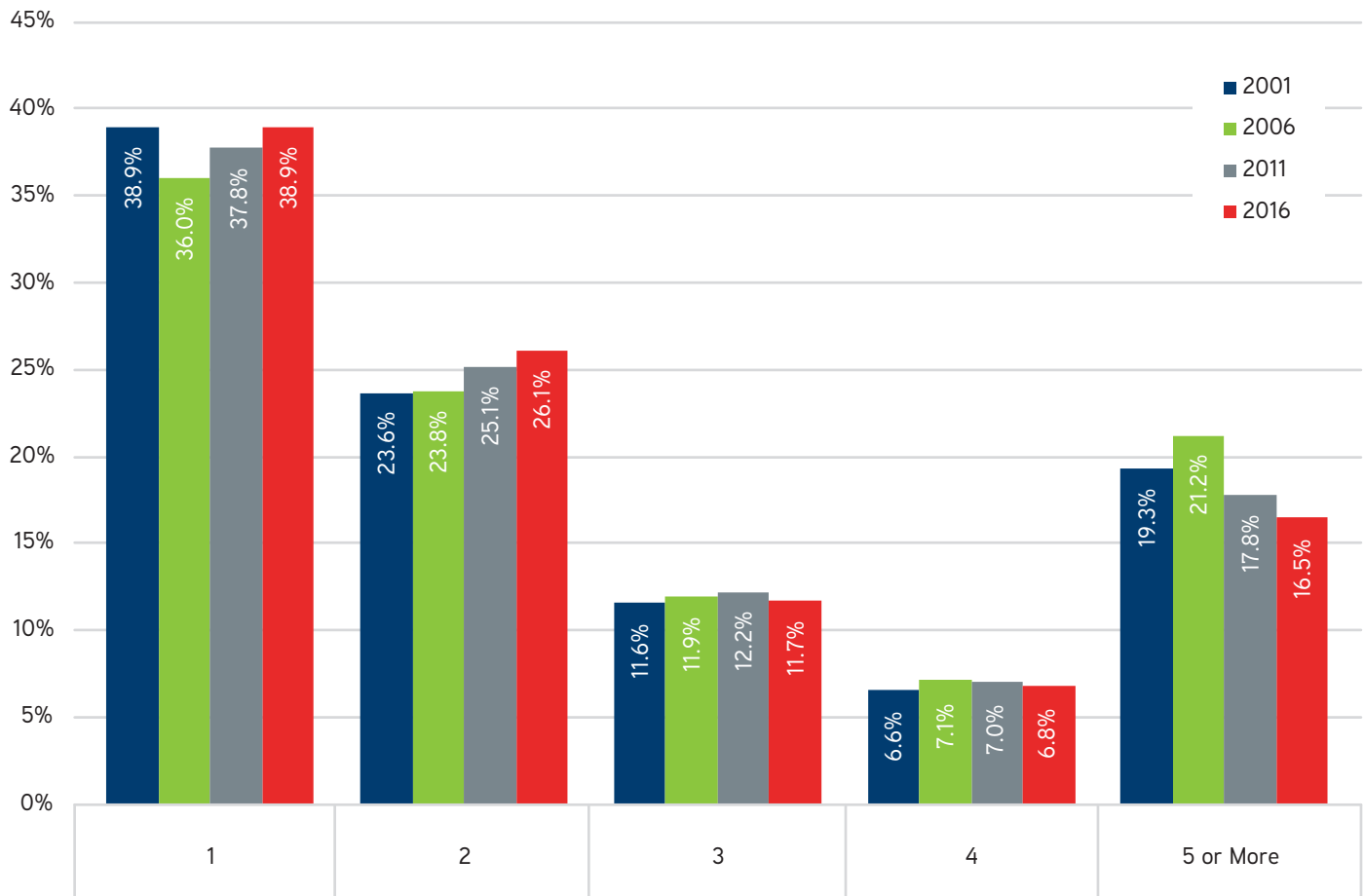
In general, women continue to be the household members more often responsible for taking care of pets (S1_FIG 4). Their contribution varies by type of pet. Women are primarily responsible for the dogs in 54% of dog-owning households, while men are primarily responsible in 46% of them (after rounding). Women are primarily responsible for cats in 63% of cat-owning households and 65% of horse-owning households, while men are responsible in 37% of cat and 35% of pet horse-owning households.

The share of men responsible for pet care in 2016 is significantly higher than the share of men responsible for pet care in 2011 and prior survey years. There are two possible reasons for this. One is that the 2017 PDS survey is simply more accurate. It is more accurate in two ways. First, the 2017 PDS questionnaire asked directly, “What is the gender of the person primarily responsible for [dog or cat or horse] care in your household?” Prior to the 2017 PDS, this question was not asked directly. The person completing the survey was supposed to be the person primarily responsible for all pet care. And 80% of the 2012 PDS respondents were female. Second, in contrast with the 2012 PDS, the 2017 PDS study surveyed men and women at the rates they represent in the population. This avoids gender bias. For these reasons the 2017 PDS finds that men are responsible for pet care in a larger percentage of pet-owning households than previously estimated.

The other possible reason for the rise in the rate at which men are responsible for pet care is that household behavior has actually changed.

Almost two-thirds (61%) of pet-owning households owned more than one dog, cat, bird or horse in 2016 (S1_FIG 5). Of these pet owners, 39% had one pet, 26% had two pets, 12% had three pets, 7% had four pets and 17% had five or more pets. The average number of pets per household was 2.2, considering only dogs, cats, pet birds and pet horses—on a head-count basis—at the end of 2016.

S1_FIG 5. PERCENT OF HOUSEHOLDS WHO OWNED PETS BY NUMBER OWNED, DECEMBER 31, 2001–2016



S1_TAB 5. PERCENTAGE OF HOUSEHOLDS WHO OWNED PETS AND NUMBER OF PET-OWNING HOUSEHOLDS BY REGION AND STATE, DECEMBER 31, 2016

	Total Number of Households (in 1,000s)*	Percent of Households Who Owned Pets on Dec. 31, 2016	Number of Pet-Ownning Households (in 1,000s)
United States	125,819	56.8%	71,475
New England	5,710	54.3%	3,025
Connecticut	1,430	49.9%	714
Maine	606	63.5%	385
Massachusetts	2,714	49.1%	1,331
New Hampshire	502	51.8%	260
Rhode Island	450	45.4%	204
Vermont	265	70.0%	185
Middle Atlantic	16,379	51.0%	8,348
New Jersey	3,414	47.4%	1,617
New York	7,849	49.7%	3,667
Pennsylvania	5,116	60.6%	3,103
East North Central	18,950	59.1%	11,203
Illinois	5,138	48.6%	2,499
Indiana	2,670	69.2%	1,847
Michigan	4,071	62.4%	2,539
Ohio	4,682	62.4%	2,922
Wisconsin	2,389	59.0%	1,410
West North Central	8,505	60.1%	5,108
Iowa	1,298	59.4%	771
Kansas	1,136	62.8%	714
Minnesota	2,234	54.0%	1,207
Missouri	2,417	63.5%	1,535
Nebraska	736	70.3%	517
North Dakota	328	63.7%	209
South Dakota	356	46.4%	165
South Atlantic	25,325	55.7%	14,098
Delaware	399	57.9%	231
District of Columbia	321	38.2%	123
Florida	8,260	56.0%	4,628
Georgia	3,999	51.1%	2,044
Maryland	2,261	48.6%	1,098
North Carolina	4,022	58.6%	2,356
South Carolina	2,002	62.0%	1,241
Virginia	3,306	55.5%	1,836
West Virginia	755	70.7%	534

S1_TAB 5. CONTINUED

	Total Number of Households (in 1,000s)*	Percent of Households Who Owned Pets on Dec. 31, 2016	Number of Pet-Owning Households (in 1,000s)
East South Central	7,747	62.4	4,832
Alabama	1,984	59.8	1,187
Kentucky	1,874	64.1	1,201
Mississippi	1,153	65.5	755
Tennessee	2,736	61.7	1,688
West South Central	14,750	59.4	8,762
Arkansas	1,211	69.0	836
Louisiana	1,847	54.4	1,005
Oklahoma	1,587	65.0	1,031
Texas	10,105	58.2	5,885
Mountain	9,100	60.3	5,483
Arizona	2,624	58.0	1,522
Colorado	2,221	64.7	1,437
Idaho	648	69.9	453
Montana	435	61.9	269
Nevada	1,122	53.3	598
New Mexico	796	60.1	478
Utah	1,014	58.5	593
Wyoming	240	71.8	172
Pacific	18,361	57.8	10,604
California	13,911	57.2	7,959
Oregon	1,606	59.2	950
Washington	2,844	62.7	1,782

**U.S. Census Bureau: 2016 Current Population Survey*

chapter 2:

MULTIPLE PET OWNERSHIP



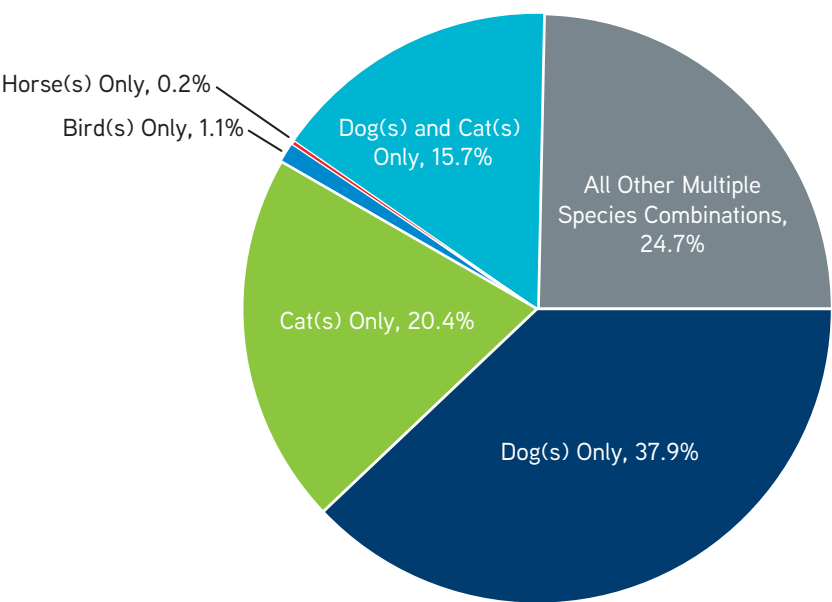
Respondents were asked what types of pets they had, how many they had of each type of pet anytime, and how many they had at year-end.

Among the 71 million households (57% of all U.S. households) who owned a pet, one quarter (24.7%) had various combinations of different pet species. The other three-quarters include the 37.9% who had only dogs, 20.4% with only cats, 15.7% with both dogs and cats but no other species, 1.1% with only pet birds and 0.2% who had only horses.

In sum, more than 40% of pet-owning households owned more than one type of pet. There were various scenarios of household types by pet ownership: dog-owning, cat-owning, bird-owning and horse-owning (S1_TAB6). For example, the table indicates that 31% of dog-owning households, which represent 38% of all U.S. households, also owned cats. On the other hand, 47.2% of cat-owning households, which represent 25% of all U.S. households, also owned dogs. When focusing on bird-owning households, 60% also owned dogs, 37.7% also owned cats and 1.3% also owned horses.

Overall, dog-only households were more likely to consider their dogs to be family members (86%), compared to cat-only households (75%) (S1_TAB 7).

S1_FIG 6. MULTIPLE PET OWNERSHIP COMBINATIONS, DECEMBER 31, 2016



S1_TAB 6. PET OWNERSHIP RATES, AT LEAST ONE TYPE OF PET, DECEMBER 31, 2016

	Dogs	Cats	Birds	Horses
Type of Household	%	%	%	%
Dog-Owning Households	100.0	31.2	5.6	1.3
Cat-Owning Households	47.2	100.0	4.1	1.4
Bird-Owning Households	60.0	37.7	100.0	1.3
Horse-Owning Households	71.5	50.2	5.1	100.0

S1_TAB 7. HOW DOG-ONLY AND CAT-ONLY OWNERS VIEWED THEIR PETS, 2016

Type of Household	We Consider Our Pet(s) to Be:		
	Family Member	Companion	Property Under Our Care
Type of Household	%	%	%
Dog Only	86%	13%	1%
Cat Only	75%	21%	4%

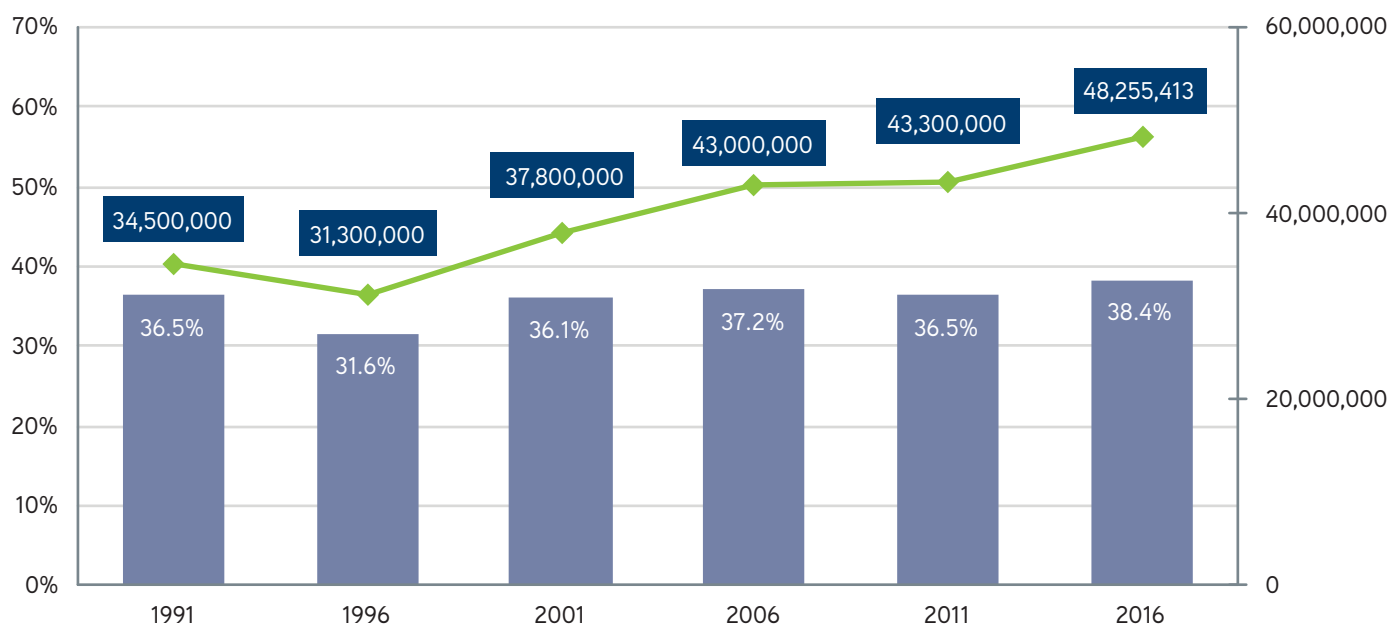


chapter 3: **DOG OWNERSHIP**

Nationally, 38.4% of all households owned a dog at year-end 2016, representing an increase of 5.2% above the estimated rate of dog ownership in 2011.

In 2016, approximately 48.3 million households owned a dog, a 11.4% increase from 43.3 million in 2011. At the end of 2016, the U.S. dog population was approximately 76.8 million (S1_FIG 7).

S1_FIG 7. PERCENT AND NUMBER OF HOUSEHOLDS WHO OWNED A DOG, DECEMBER 31, 1991–2016



The 10 states with the highest percentage of dog owners at year-end 2016 were Idaho (58%), Montana (52%), Arkansas (52%), Mississippi (51%), West Virginia (50%), Indiana (49%), Oklahoma (48%), Colorado (47%), Nebraska (47%) and Tennessee (47%) (S1_FIG 8).

The 10 states with the lowest percentage of dog owners were New Hampshire (24%), Connecticut (24%), Rhode Island (26%), New York (27%), Vermont (28%), Massachusetts (29%), New Jersey (29%), Maryland (30%), Illinois (31%) and South Dakota (32%). The District of Columbia (23%) also had a low percentage of dog-owning households.

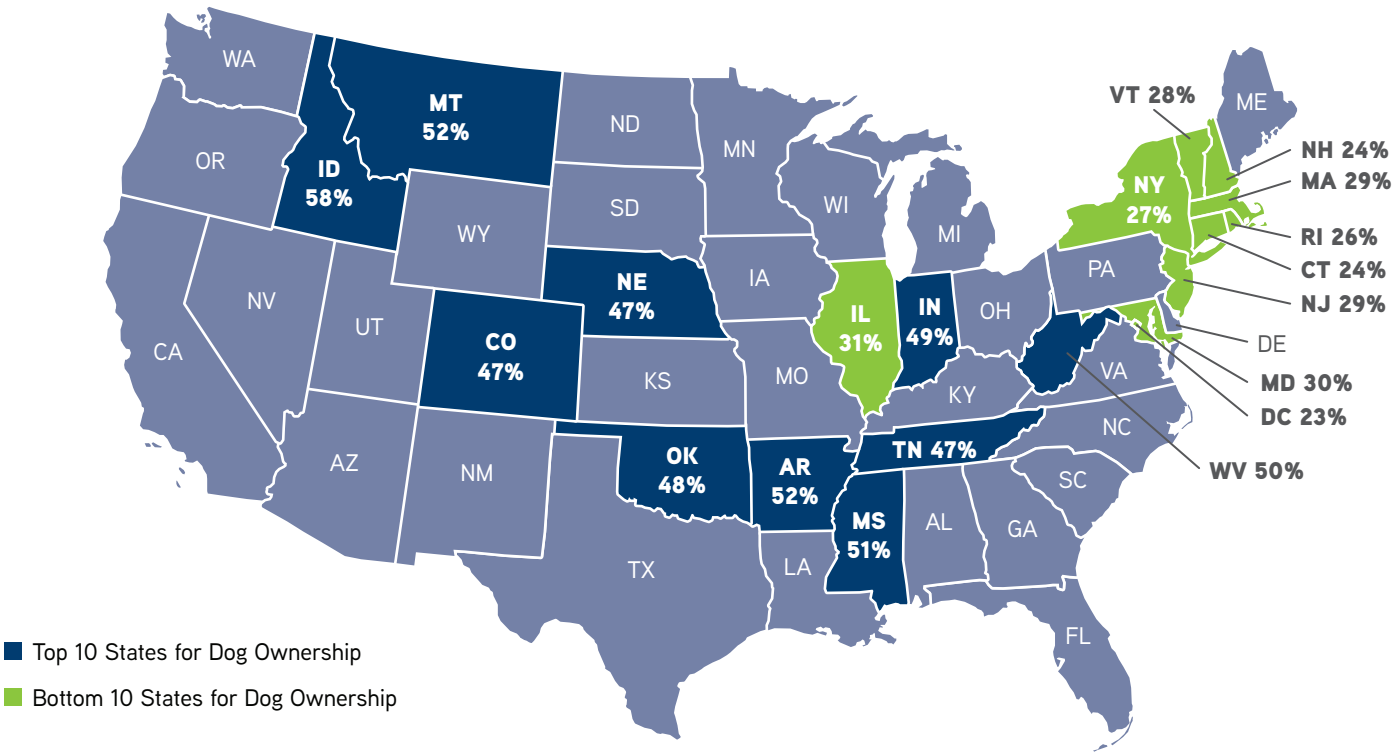
For the full information on dog ownership, including the percentage of households with dogs, the dog population and trend information for the 48 contiguous states, please see S1_TAB16 and S1_TAB17 at the end of this chapter.

An indicator of the rate of pet dog population growth may be denoted by the percent of dog-owning households who plan to acquire another dog in 2017. About 8%, which is almost 4 million households, said, “yes,” they do plan to add another dog to their household in 2017 (S1_TAB 8).

S1_TAB 8. PERCENT OF DOG-OWNING HOUSEHOLDS WHO PLAN TO ADD A NEW DOG IN 2017

	Yes	No	Don't Know
Percent of Households Who Owned Dogs	8%	73%	19%
Number of Households (1,000s)	3,913	35,322	9,020

S1_FIG 8. TOP AND BOTTOM 10 STATES ACCORDING TO PERCENT OF HOUSEHOLDS WHO OWNED DOGS ON DECEMBER 31, 2016



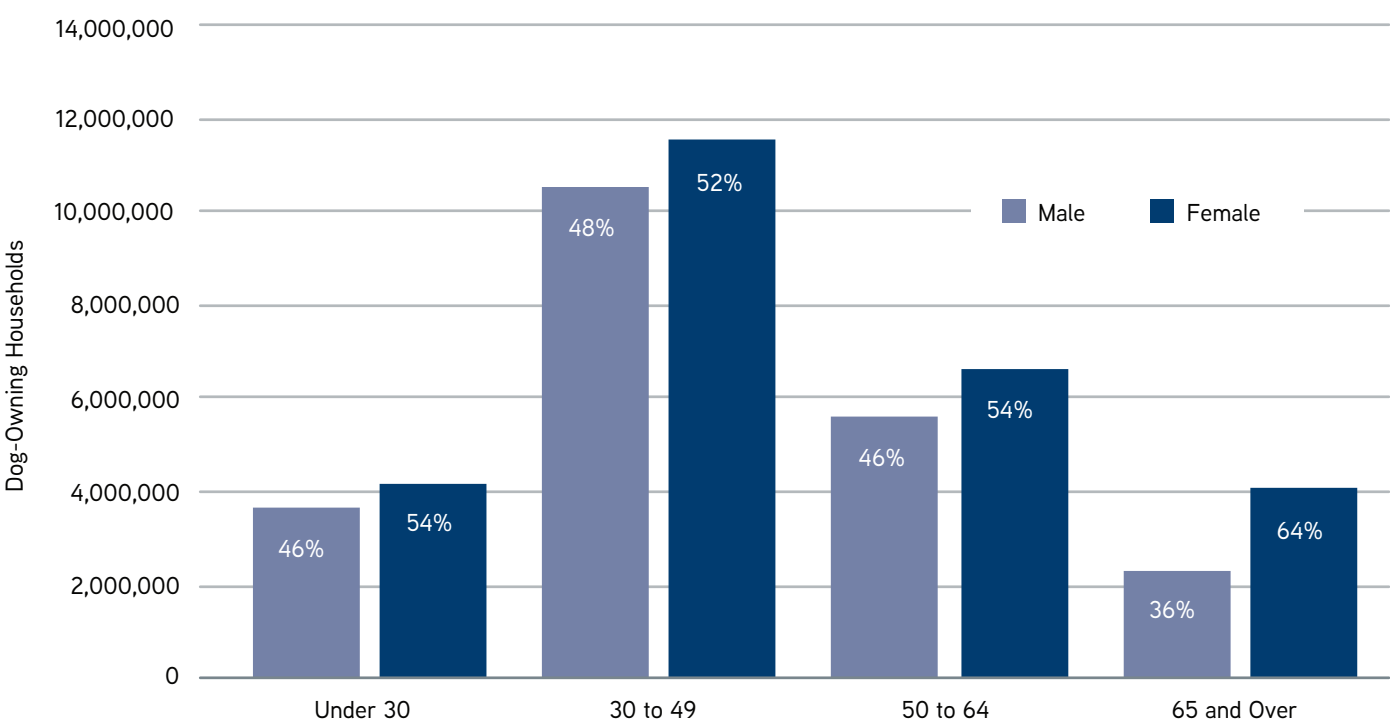
A large percentage (85%) of dog owners considered their dogs to be family members, while 13.5% considered them to be companions (S1_TAB 9). Only 1.4% considered their dogs to be property. There is not much difference in the human-animal bond across dog owners of different ages.

The person who had primary responsibility for the care of the family dog(s) was female in more than half (54%) of dog-owning households (S1_FIG 9). Men were primarily responsible in about 46% of all dog-owning households. Men are primarily responsible for the care of dogs at a higher rate than for any other pet species. The gender mix of the persons responsible for dog care did not vary significantly by age.

S1_TAB 9. HOW DOG OWNERS VIEWED THEIR DOGS BY AGE OF RESPONDENT, 2016

	We Consider Our Dog(s) to Be:		
	Family Member	Pet/Companion	Property
Age of Dog Owner	%	%	%
All	85.1%	13.5%	1.4%
18 or Under	84.3%	14.7%	1.1%
19–29	83.3%	14.6%	2.1%
30–49	87.1%	11.7%	1.2%
50–64	83.8%	14.7%	1.5%
65 or Over	82.4%	16.4%	1.2%

S1_FIG 9. AGE AND GENDER OF PERSON WITH PRIMARY RESPONSIBILITY FOR DOG CARE, 2016



The average number of dogs per household was 1.6 in 2016, no change from 2011 (S1_TAB 10). Six out of 10 (60%) households owned just one dog in 2016. The highest shares ever owned two dogs (28%) or three dogs (8%), but fewer households owned four or more dogs.

S1_TAB 10. PERCENTAGES OF HOUSEHOLDS WHO OWNED DOGS BY NUMBER OWNED AND AVERAGE NUMBER OF DOGS, DECEMBER 31, 1987–2016

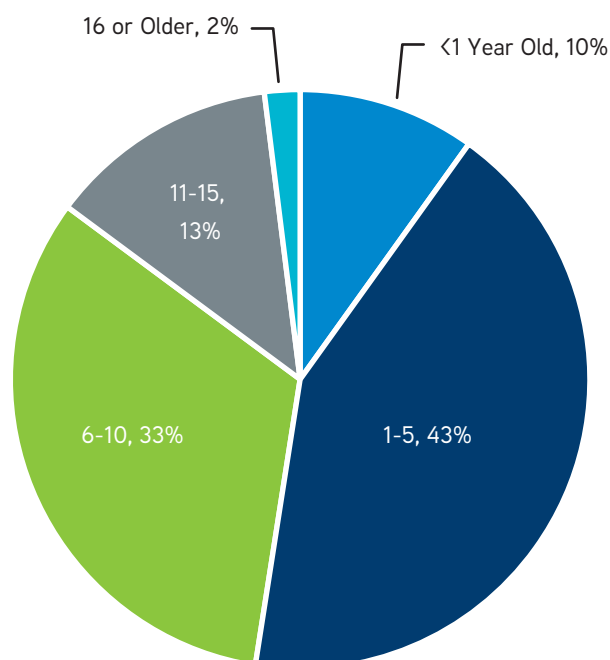
	1987	1991	1996	2001	2006	2011	2016
Number of Dogs	%	%	%	%	%	%	%
One (%)	69.7%	70.2%	62.2%	64.9%	62.2%	61.8%	60.4%
Two (%)	20.9%	20.2%	24.5%	23.1%	24.8%	26.0%	27.8%
Three (%)	5.9%	5.6%	7.0%	6.5%	7.5%	7.5%	7.7%
Four or More (%)	3.5%	4.0%	6.3%	5.5%	5.5%	4.7%	4.1%
Average Number of Dogs (#)	1.5	1.5	1.7	1.6	1.7	1.6	1.6

More than half (53%) of the dog population was under the age of six in 2016 (S1_TAB 11; S1_FIG 10). Puppies less than one year old comprised 10% of the pet dog population. Dogs one to five years old made up 43%, dogs six to 10 years old made up 33%, 11 to 15 years old were 13% and 2% of the dogs owned at year-end 2016 were 16 and older. There were 7.6 million puppies, and more than a million dogs age 16 and over.

S1_TAB 11. AGES OF DOGS OWNED ON DECEMBER 31, 2016

	Ages of Dogs Owned December 31, 2016				
	<1 Year Old	1–5	6–10	11–15	16 or Older
Percent	10%	43%	33%	13%	2%
Number (1,000s)	7,596	33,507	25,746	9,782	1,180

S1_FIG 10. AGES OF DOGS OWNED DECEMBER 31, 2016

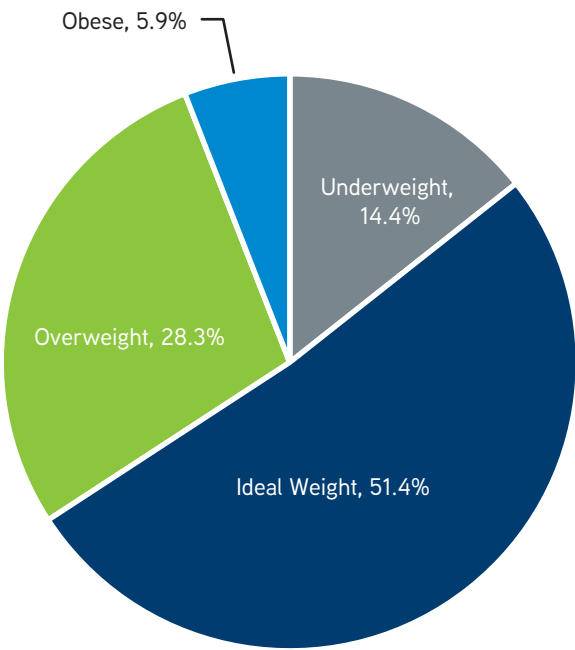


2017 PDS Respondents were shown four dog body condition images and asked to report how many of their dogs had the illustrated body weights (S1_TAB 12). This is the second time that pet owners were asked to evaluate their pet's body condition by matching images rather than by choosing among word-labelled categories. The first instance was for the pretest of the 2017 PDS conducted for the AVMA in late 2016. At least a third of dogs owned at year-end 2016 appeared to their owners to be overweight or obese, which is about 27 million dogs: 22 million appear overweight and 5 million appear obese.


Just over half (51%) of all dogs at year-end 2016 were considered by their owners to be ideal weight; 28% of the dogs appeared to be overweight, 6% reportedly appeared obese, and 14% of the dogs were reported to appear underweight (S1_FIG 11).

The 2017 PDS asked for the first time about the main role of each dog in the household. The vast majority (94%) of dogs owned on December 31, 2016, were mainly pets (S1_TAB 13). A relatively small share (2%), which is nonetheless 1.6 million dogs, were service dogs: seeing eye, guide or therapy dogs. More than 2 million dogs (3%) were mainly working dogs: guard dogs or hunting dogs. About 648,000 (1%) were for sale: either pups for sale or dogs mainly for breeding.

S1_FIG 11. APPARENT BODY CONDITION OF DOGS OWNED DECEMBER 31, 2016



S1_TAB 12. APPARENT BODY CONDITION OF DOGS OWNED DECEMBER 31, 2016



Body Condition		Percent of Dogs	Number (1,000s)
Under 16% Body Fat	Underweight	14%	11,170
16–25% Body Fat	Ideal Weight	51%	40,029
26–35% Body Fat	Overweight	28%	22,003
36% or More Body Fat	Obese	6%	4,609

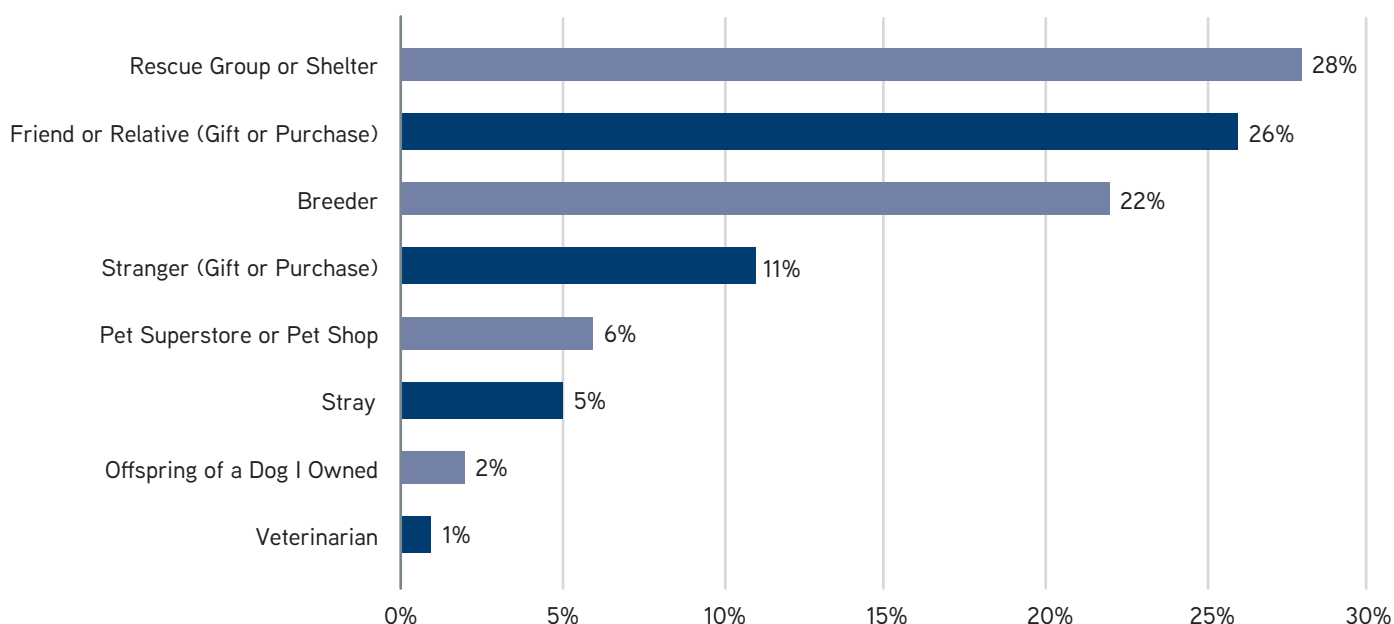
S1_TAB 13. MAIN ROLE IN THE HOUSEHOLD OF DOGS OWNED DECEMBER 31, 2016

	Pets	Service Dogs	Working Dogs	For Sale
Percent	94%	2%	3%	1%
Number (1,000s)	73,440	1,610	2,113	648

S1_TAB 14. PERCENT OF DOGS STERILIZED/NOT, BY OR BEFORE THE CURRENT OWNER, DECEMBER 31, 2016

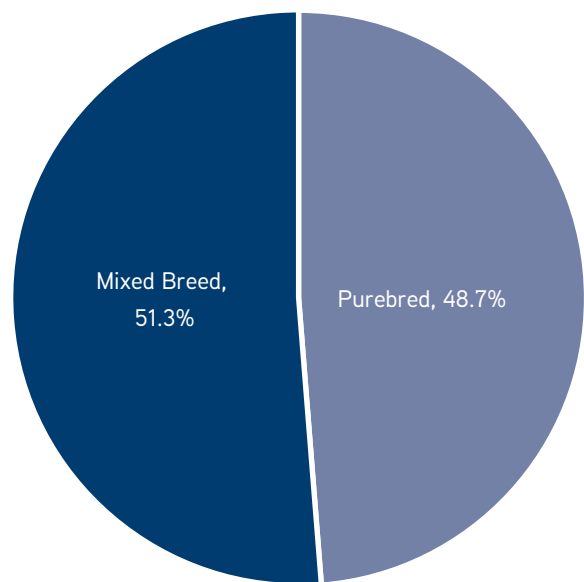
	Percent	Number (1,000s)
Not Fixed	30.9%	23,702
Fixed	69.1%	53,110
Fixed Before	35.4%	18,776
Fixed After	64.6%	34,333

2017 PDS respondents were also asked how many of the dogs they owned on December 31, 2016, were fixed; and if so, if they were fixed before they got the dog(s) or after. From this survey data the percent of the pet dog population that is sterilized (spayed or neutered) is estimated. More than two-thirds (69%), or over 53 million pet dogs, were fixed by the end of 2016 (S1_TAB 14). Two-thirds of the dogs that were fixed, or over 34 million dogs, were spayed or neutered by their current owners. The other third (35%) were sterilized before the current owners got the dog.

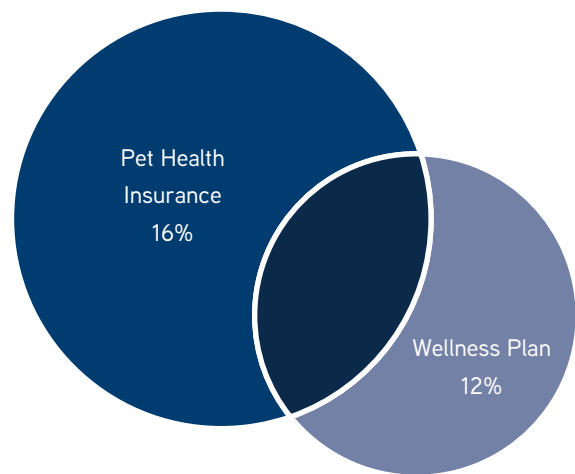
S1_FIG 12. ACTUAL SOURCE OF MOST RECENTLY ACQUIRED DOG, 2016

Respondents to the 2017 PDS were asked where they got their most recently acquired dog. Shelters and rescue groups continue to be the source of the largest share of dogs (28%) (S1_FIG 12). Friends or relatives were the source of the next largest portion (26%), followed by breeders (22%), purchases or gifts from strangers (11%), purchased from a pet shop or pet superstore (6%), stray (5%), offspring of a dog already owned (2%) and veterinarians (1%). Previous PDS surveys collected answers about likely sources of peoples' next dog(s). These data show the actual sources of pet dogs.

S1_FIG 13. TYPE OF DOG(S) OWNED, DECEMBER 31, 2016



S1_FIG 13B. PERCENTAGES OF DOG-OWNING HOUSEHOLDS WHO HAD DOGS COVERED BY PET HEALTH INSURANCE, WELLNESS PLANS OR BOTH; DECEMBER 31, 2016



Similar to findings in prior surveys, approximately half of dogs (49%) are reported to be purebred; the rest were mixed-breed dogs (S1_FIG 13).

Respondents to the 2017 PDS were also asked for the first time to report how many of their dogs were covered by pet health insurance or a wellness plan on December 31, 2016. From these data the share and number of dog-owning households who have purchased pet health insurance is estimated, as well as the share and number of covered dogs (S1_TAB 15).

At year-end 2016, 16%, or more than 7.5 million dog-owning households reported, having at least one dog covered by pet health insurance. The percent of dog-owning households with pet health insurance in 2016 appears to be more than twice the rate estimated in 2011. Households do not necessarily purchase pet health insurance for all the dogs they own. A slightly smaller percentage (14%), which is 11 million dogs, were covered by pet health insurance.

The shares and numbers of dog-owning households and of dogs with wellness plans are similarly estimated to be 12% of dog-owning households, and under 11% of dogs. That is, more than 8.1 million dogs in 5.8 million households (S1_TAB 15).

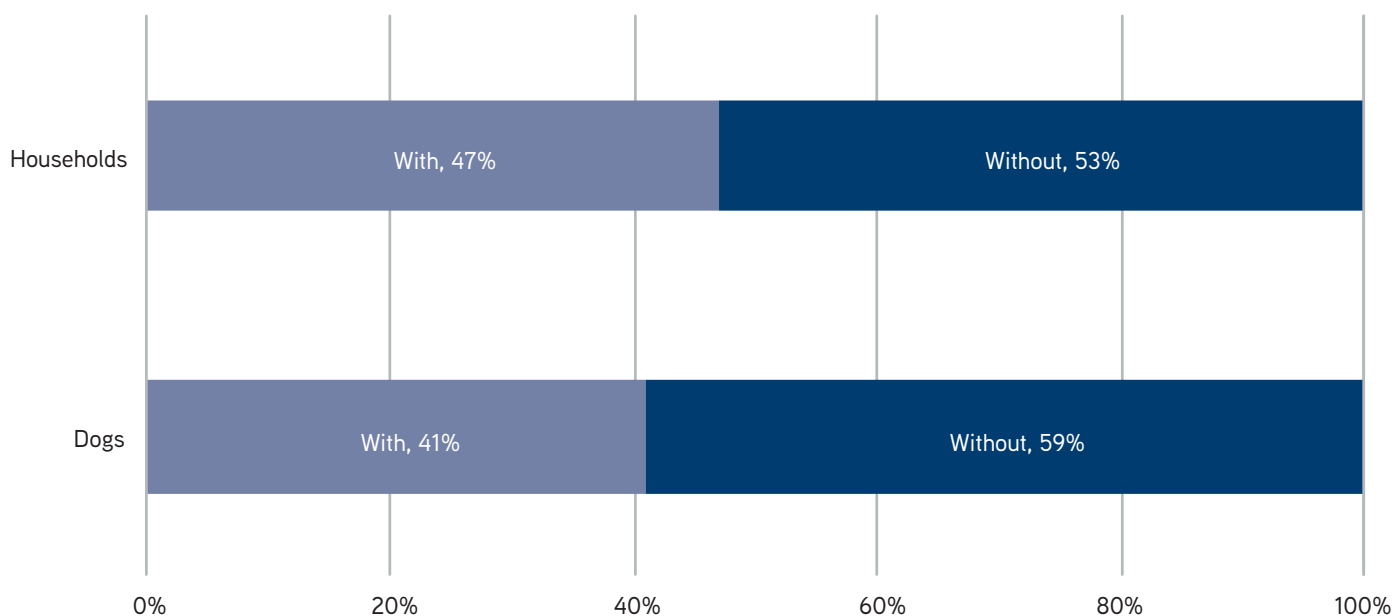
Finally, although we did not ask how many of the dogs owned on December 31, 2016, were covered by both pet health insurance and a wellness plan, the data does reveal the households who had both. More than 7%, which is 3.5 million dog-owning households, had both (S1_TAB 15). For example, this count includes households with more than one dog that have at least one dog covered by a wellness plan, another covered by pet health insurance and others covered by neither, as well as households with one or more dogs covered by both.

S1_TAB 15. HOUSEHOLDS WITH PET HEALTH INSURANCE, WELLNESS PLANS OR BOTH, PERCENTAGES AND NUMBERS OF DOGS COVERED, DECEMBER 31, 2016

	Percent of Households	Number of Households (1,000s)	Percent of Dogs	Number of Dogs (1,000s)
Pet Health Insurance	15.6%	7,535	14.0%	10,739
Wellness Plan	12.0%	5,790	10.6%	8,118
Both	7.3%	3,516		

Also, for the first time, this PDS survey asked respondents how many of their dogs owned at year-end had a registered ID microchip or tattoo. Almost half (47%) of all dog-owning households had at least one dog with a registered permanent ID (S1_FIG14). And two-fifths (41%) of all dogs had registered microchip or tattoo IDs at year-end 2016.

S1_FIG 14. PERCENT OF DOGS AND DOG-OWNING HOUSEHOLDS WITH REGISTERED IDS, 2016



The difference between the number of dogs owned anytime and the number owned on December 31, 2016, indicates the number of dogs that died, were sold or given away, or that left their households some other way during the year. Of the 82 million dogs owned at any time during 2016, 5 million (6%) were no longer with those owners at year-end.

Just over a quarter (26%) were euthanized (S1_FIG15). Another quarter (26%) died at home, and 19% were given away to others (not to shelters), 7% were reported sold, 5% were given to shelters and 17% left the household some other way—such as “ran away.”

Another new set of survey data collected for the 2017 PDS is the number of dogs owned for only a quarter of the year, half the year, more than half the year and all year. The number of dogs owned anytime is used to estimate annual household spending per dog. Obviously, not all dog-owning households own all their dogs for the full year. The new data allow us to estimate the number of “full-time equivalent” dogs owned during the year.

An overwhelming majority, 89%, of the dogs owned at any time during 2016, or about 73 million dogs, were owned for the full year (S1_FIG 16). About 4% were owned for less than a quarter of the year, 3% for up to half the year and the remaining 4% for more than half the year (but not all year). The implication is that there were just under 76 million “full-time equivalent” dogs owned during 2016, which amounts to 99% of the dog population on December 31.

Across the nine census regions, the one with the highest percentage of dog owners was the East South Central region (47%). The West South Central (44%), Mountain (43%), West North Central (41%), Pacific (40%) and South Atlantic (39%) regions were above the national average (38%). The Middle Atlantic (31%) and New England (27%) regions had the lowest percentages of dog owners.

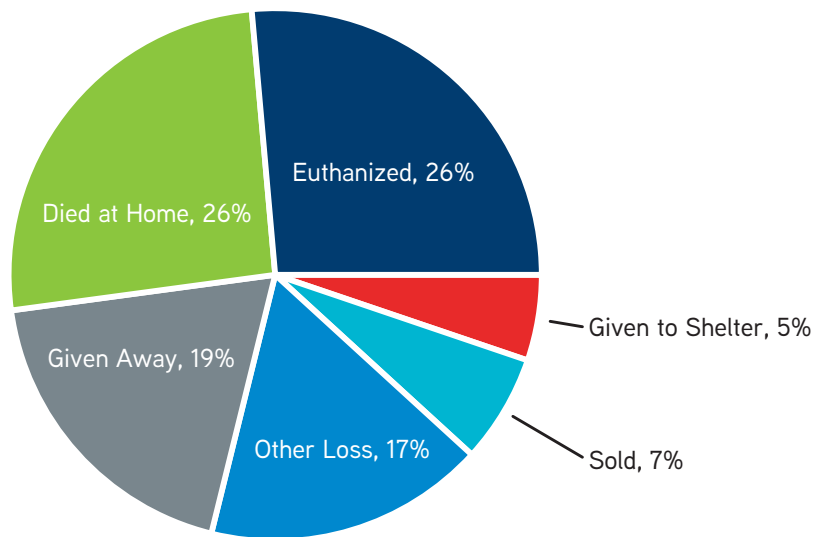
The rate of dog ownership rose in all regions since 2011, except the New England and Middle Atlantic regions (S1_TAB 17). The New England states that display the largest reductions in estimated dog ownership rates are Vermont (-25%), New Hampshire (-22%), Connecticut (-15%), Rhode Island (-12%) and New Jersey (-10%).

States in other regions that show large declines since 2011 are South Dakota (-25%) and New Mexico (-14%).

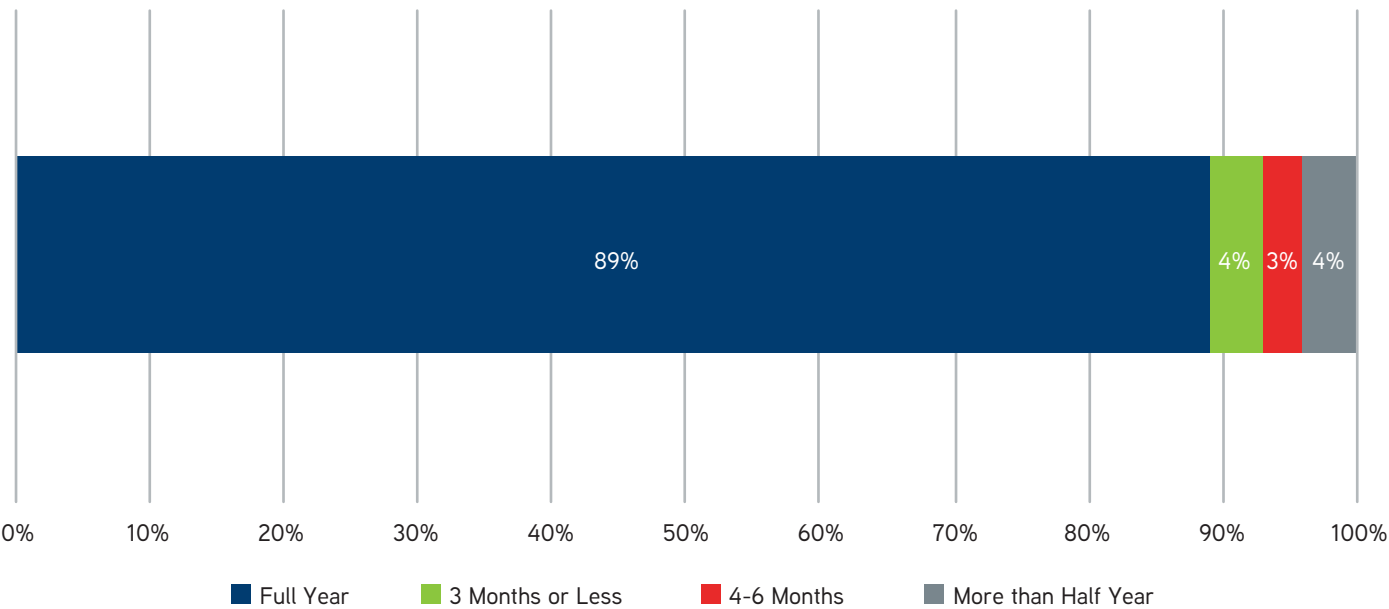
The region with the highest increase in the percentage of households who own dogs was the Pacific region (17%). The states that contributed most to the increase in the Pacific region were California (22%) and Washington (18%). Nebraska (39%) and the District of Columbia (79%) also posted large increases in the rate of household dog ownership.

The three states with the highest population of dogs by year-end 2016 were the states with the most households: California (8.7 million dogs), Texas (7.7 million dogs) and Florida (5.1 million dogs).

S1_FIG 15. DESTINATIONS OF DOGS THAT LEFT THEIR HOUSEHOLDS IN 2016



S1_FIG 16. PORTION OF YEAR DOGS WERE OWNED, 2016



S1_TAB 16. PERCENT AND NUMBER OF HOUSEHOLDS WHO OWNED DOGS, AVERAGE NUMBER OF DOGS PER OWNING HOUSEHOLD AND TOTAL DOG POPULATION BY REGION AND STATE, DECEMBER 31, 2016

	Number of Households (1,000s)*	Percent of Households who Owned Dogs	Number of Dog-Ownning Households (1,000s)	Average Number of Dogs per Household	Dog Population (1,000s)
United States	125,819	38.4%	48,255	1.6	76,811
New England	5,967	27.4%	1,632	1.4	2,278
Connecticut	1,430	24.0%	344	1.4	466
Maine	606	35.9%	218	1.5	324
Massachusetts	2,714	28.9%	783	1.4	1,096
New Hampshire	502	23.7%	119	1.4	165
Rhode Island	450	25.8%	116	1.4	167
Vermont	265	28.3%	75	1.3	96
Middle Atlantic	16,379	30.9%	5,067	1.4	6,885
New Jersey	3,414	29.1%	992	1.3	1,253
New York	7,849	27.0%	2,116	1.4	2,858
Pennsylvania	5,116	38.9%	1,990	1.4	2,827
East North Central	18,950	37.8%	7,159	1.6	11,189
Illinois	5,138	31.0%	1,590	1.4	2,230
Indiana	2,670	49.4%	1,319	1.6	2,142
Michigan	4,071	41.9%	1,705	1.6	2,763
Ohio	4,682	37.9%	1,773	1.7	2,973
Wisconsin	2,389	33.6%	802	1.4	1,141
West North Central	8,505	40.5%	3,448	1.6	5,495
Iowa	1,298	36.3%	472	1.8	834
Kansas	1,136	43.1%	490	1.6	770
Minnesota	2,234	35.5%	793	1.4	1,102
Missouri	2,417	45.1%	1,090	1.6	1,798
Nebraska	736	47.1%	347	1.8	634
North Dakota	328	44.3%	145	1.5	213
South Dakota	356	32.1%	114	1.3	149
South Atlantic	25,325	38.7%	9,805	1.6	15,741
Delaware	399	42.2%	168	1.8	310
District of Columbia	321	22.5%	72	1	72
Florida	8,260	39.8%	3,285	1.5	5,073
Georgia	3,999	36.7%	1,466	1.8	2,573
Maryland	2,261	30.2%	683	1.4	963
North Carolina	4,022	41.3%	1,663	1.6	2,742
South Carolina	2,002	45.3%	907	1.6	1,423
Virginia	3,306	35.6%	1,178	1.7	1,946
West Virginia	755	49.6%	374	1.7	637

S1_TAB 16. CONTINUED

	Number of Households (1,000s)*	Percent of Households Who Owned Dogs	Number of Dog-Ownning Households (1,000s)	Average Number of Dogs per Household	Dog Population (1,000s)
East South Central	7,747	47.4	3,669	1.9	2,133
Alabama	1,984	46.9	931	1.9	513
Kentucky	1,874	46.5	842	1.9	545
Mississippi	1,153	51.0	588	2.1	276
Tennessee	2,736	47.0	1,286	1.7	799
West South Central	14,750	43.9	6,479	1.7	11,193
Arkansas	1,211	51.6	625	1.8	1,103
Louisiana	1,847	38.3	707	1.6	1,100
Oklahoma	1,587	47.7	757	1.8	1,397
Texas	10,105	43.4	4,383	1.7	7,570
Mountain	9,100	43.0	3,916	1.7	2,914
Arizona	2,624	43.0	1,129	1.8	907
Colorado	2,221	47.2	1,048	1.6	671
Idaho	648	58.3	378	1.7	173
Montana	435	51.9	226	2.1	112
Nevada	1,122	36.8	412	1.6	428
New Mexico	796	39.4	314	2.0	193
Utah	1,014	36.2	367	1.6	365
Wyoming	240	36.0	86	1.7	65
Pacific	18,361	39.9	7,329	1.6	11,403
California	13,911	40.1	5,576	1.6	8,690
Oregon	1,606	37.8	608	1.6	997
Washington	2,844	42.8	1,217	1.5	1,846

*U.S. Census Bureau: 2016 Current Population Survey

S1_TAB 17. TRENDS IN DOG OWNERSHIP BY REGION AND STATE, DECEMBER 31, 2001–2016

	2001		2006		2011		2016	
	% of Households	Dogs (1,000s)	% of Households	Dogs (1,000s)	% of Households	Dogs (1,000s)	% of Households	Dogs (1,000s)
United States	36.1%	61,572	37.2%	72,114	36.5%	69,926	38.4%	76,811
New England	26.5%	1,977	28.6%	2,337	27.5%	2,180	27.4%	2,278
Connecticut	28.4%	518	28.9%	544	28.3%	507	24.0%	466
Maine	37.7%	312	35.8%	276	34.6%	300	35.9%	324
Massachusetts	21.4%	680	23.3%	873	23.6%	850	28.9%	1,096
New Hampshire	29.6%	197	35.4%	263	30.3%	212	23.7%	165
Rhode Island	29.1%	142	32.8%	213	29.3%	161	25.8%	167
Vermont	33.0%	127	43.8%	171	37.7%	142	28.3%	96
Middle Atlantic	28.5%	61,10	29.2%	6,994	31.1%	6,917	30.9%	6,885
New Jersey	26.2%	1,124	27.4%	1,234	32.4%	1,340	29.1%	1,253
New York	26.1%	2,579	26.1%	3,053	29.0%	3,054	27.0%	2,858
Pennsylvania	33.6%	2,408	34.4%	2,653	32.9%	2,485	38.9%	2,827
East North Central	35.5%	9,328	35.2%	10,239	35.1%	9,866	37.8%	11,189
Illinois	34.3%	2,363	31.0%	2,272	32.4%	2,365	31.0%	2,230
Indiana	36.8%	1,289	36.9%	1,591	39.9%	1,619	49.4%	2,142
Michigan	36.0%	2,181	36.8%	2,349	34.6%	2,036	41.9%	2,763
Ohio	35.9%	2,394	36.2%	2,779	36.6%	2,730	37.9%	2,973
Wisconsin	35.2%	1,101	36.7%	1,236	33.9%	1,138	33.6%	1,141
West North Central	38.3%	4,630	40.1%	5,151	38.0%	4,934	40.5%	5,495
Iowa	33.7%	581	37.7%	655	33.4%	610	36.3%	834
Kansas	42.0%	698	45.8%	887	42.3%	774	43.1%	770
Minnesota	32.6%	927	34.2%	998	31.9%	934	35.5%	1,102
Missouri	41.9%	1,655	44.4%	1,900	45.9%	1,978	45.1%	1,798
Nebraska	43.5%	435	43.6%	465	33.8%	374	47.1%	634
North Dakota	36.1%	139	31.0%	131	36.1%	139	44.3%	213
South Dakota	42.3%	196	39.5%	163	42.8%	220	32.1%	149
South Atlantic	35.8%	12,097	37.3%	14,463	36.9%	13,872	38.7%	15,741
Delaware	35.6%	181	32.6%	143	33.7%	163	42.2%	310
District of Columbia	6.8%	22	11.1%	40	13.1%	42	22.5%	72
Florida	32.5%	3,296	35.6%	4,423	35.7%	4,210	39.8%	5,073
Georgia	39.2%	2,003	40.5%	2,577	40.1%	2,479	36.7%	2,573
Maryland	30.8%	976	29.0%	998	30.8%	915	30.2%	963
North Carolina	39.9%	2,249	43.3%	2,694	40.3%	2,518	41.3%	2,742
South Carolina	38.9%	1,074	39.2%	1,254	38.6%	1,191	45.3%	1,423
Virginia	36.0%	1,555	34.9%	1,638	35.4%	1,699	35.6%	1,946
West Virginia	50.3%	740	49.1%	682	45.8%	648	49.6%	637

S1_TAB 17. CONTINUED

	2001		2006		2011		2016	
	% of Households	Dogs (1,000s)	% of Households	Dogs (1,000s)	% of Households	Dogs (1,000s)	% of Households	Dogs (1,000s)
East South Central	41.4%	5,021	43.8%	5,991	44.7%	5,975	47.4%	6,790
Alabama	41.0%	1,353	41.2%	1,419	44.1%	1,410	46.9%	1,812
Kentucky	42.9%	1,297	44.4%	1,365	45.9%	1,531	46.5%	1,620
Mississippi	43.1%	857	44.2%	1,028	45.2%	846	51.0%	1,213
Tennessee	39.9%	1,515	44.9%	2,186	44.1%	2,157	47.0%	2,194
West South Central	44.2%	9,109	45.7%	11,062	43.5%	10,782	43.9%	11,193
Arkansas	42.5%	887	48.8%	1,306	47.9%	1,097	51.6%	1,103
Louisiana	43.4%	1,222	39.7%	1,118	36.4%	1,115	38.3%	1,100
Oklahoma	48.5%	1,172	55.8%	1,574	43.2%	1,327	47.7%	1,397
Texas	43.8%	5,829	44.6%	6,963	44.0%	7,163	43.4%	7,570
Mountain	42.1%	4,707	44.0%	6,265	39.8%	5,555	43.0%	6,722
Arizona	40.0%	1,293	43.1%	1,849	40.1%	1,798	43.0%	2,001
Colorado	43.7%	1,159	43.3%	1,413	42.5%	1,349	47.2%	1,676
Idaho	48.1%	384	49.1%	479	42.7%	357	58.3%	645
Montana	46.6%	284	49.7%	351	41.2%	282	51.9%	481
Nevada	42.3%	508	43.4%	674	37.1%	578	36.8%	669
New Mexico	45.9%	529	54.5%	878	46.0%	703	39.4%	618
Utah	32.4%	363	32.6%	446	29.4%	410	36.2%	576
Wyoming	47.9%	186	56.0%	230	38.8%	125	36.0%	146
Pacific	36.1%	8,593	36.4%	9,733	34.2%	9,305	39.9%	11,403
California	35.6%	6,552	34.4%	6,990	32.8%	6,687	40.1%	8,690
Oregon	38.3%	766	45.1%	1,063	38.8%	917	37.8%	997
Washington	37.4%	1,274	39.9%	1,624	36.3%	1,609	42.8%	1,846



chapter 4: **CAT OWNERSHIP**

At year-end 2016, 25% of all U.S. households owned a cat, which means there were 31.9 million cat-owning households.

The estimated U.S. pet cat population by year-end of 2016 was 58.4 million (S1_FIG 28 and S1_TAB 26 later in this chapter).

This is a lower rate of cat ownership, and a smaller population of pet cats than measured previously. Two plausible explanations for the lower estimate of the rate of cat ownership are (1) 2016 was the trough in a cycle, and (2) the 2017 PDS is a more accurate survey.

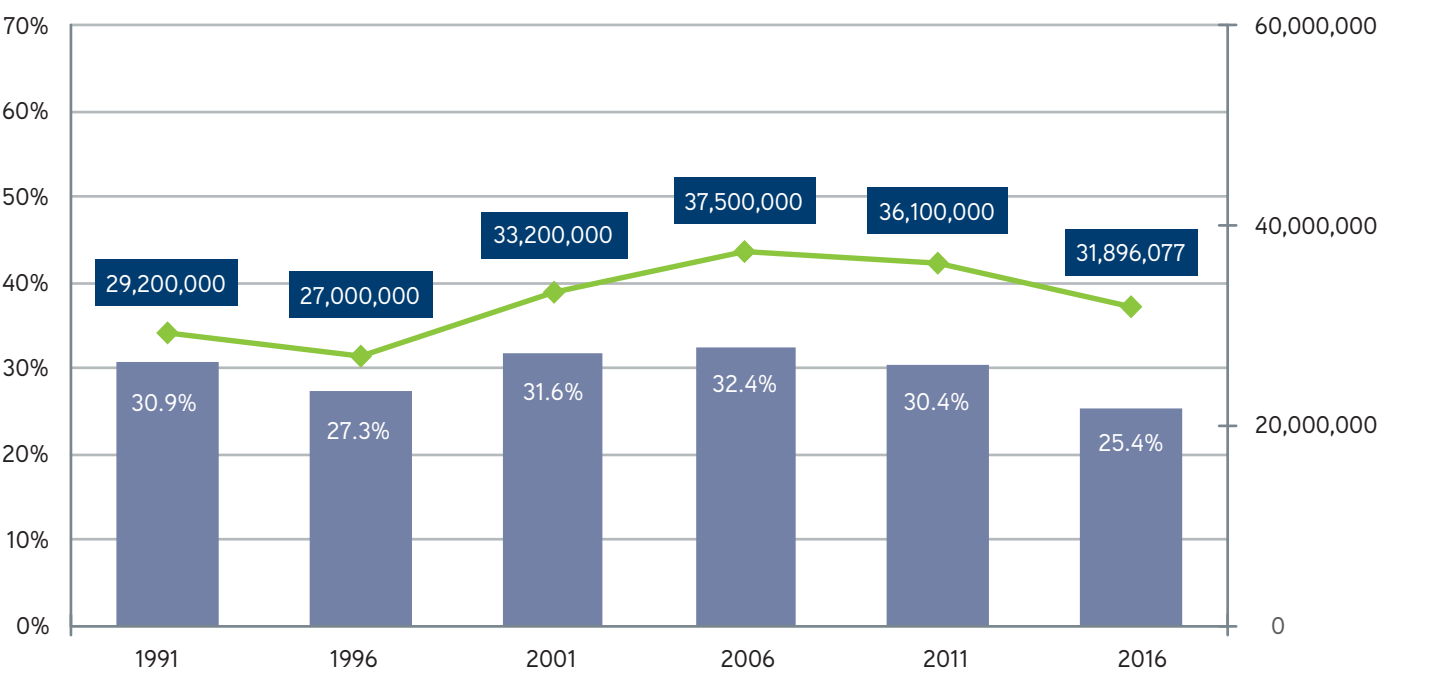
One type of data is consistent with a hypothesis that 2016 was a trough in a pet cat cycle. The trends illustrated in S1_FIG 17 and S1_FIG 18 show that cat ownership rates and the cat population were similarly low 20 years ago, in 1996.

But the trough does not look to be over soon. Only 4% of cat-owning households plan to acquire another cat in 2017. More than 4% would be required to replace the cats who pass away each year. The actual number of households demanding pet cats will be higher than just that 4%, the 1.46 million who were all previously cat owners. The actual number will also include households who did not own a cat recently. But four in five (80%) households who owned a cat at some time in 2016 replied that, no, they did not plan to acquire another cat in the following year (S1_TAB 21).

An alternative explanation of the apparent decline in the cat population is that it is not in fact declining, only that the cat population was overestimated by other surveys.

It is an undisputed fact that women are more likely to own and care for cats. Because a higher share of women typically has cats, oversampling women can lead to overestimating cat ownership rates and the cat population. Just like oversampling women would overstate the rate of child birth among the population at large. Pet ownership surveys—like the 2017 PDS—that explicitly survey men as well as women at the rates they represent in the population, more accurately estimate cat ownership rates and the pet cat population. (See Appendix A for methodology details.) For this reason, the 2017 PDS cat ownership rates may simply reflect the correction of possible sampling bias in other pet ownership surveys (see Appendix A for specifics).

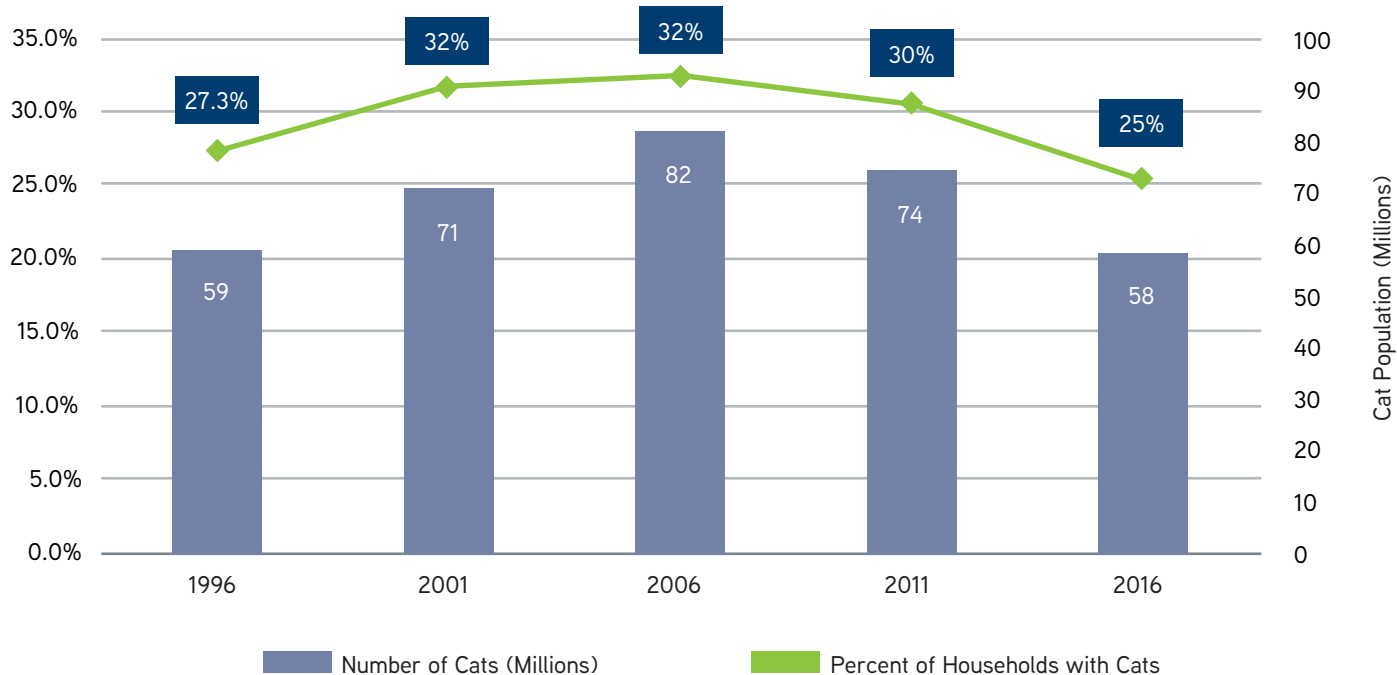
S1_FIG 17. PERCENTAGE AND NUMBER OF HOUSEHOLDS WHO OWNED A CAT, DECEMBER 31, 1991–2016



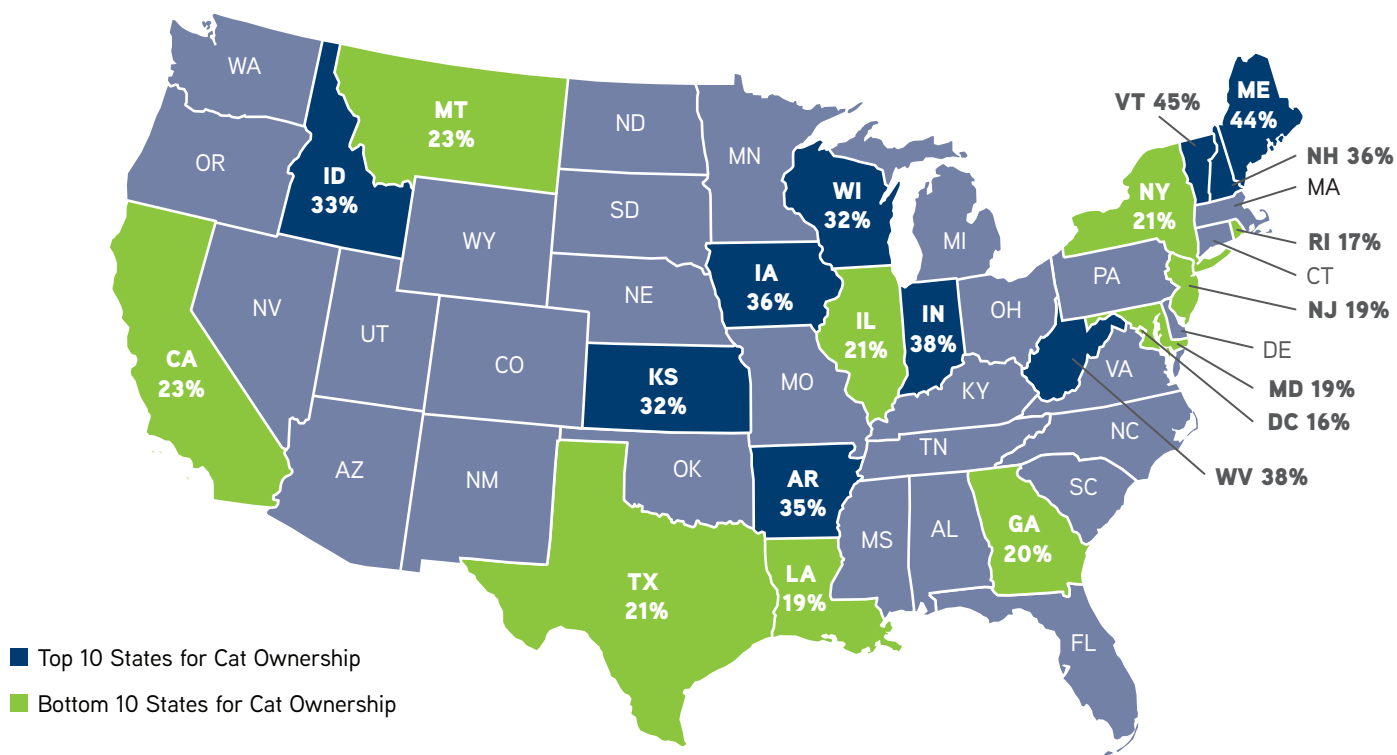
S1_TAB 18. PERCENT AND NUMBER OF HOUSEHOLDS PLANNING TO ADD A CAT IN 2017

	Yes	No	Don't Know
Percent of Cat-Owning Households	4%	80%	16%
Number of Households (1,000s)	1,462	26,566	5,372

S1_FIG 18. CAT POPULATION AND PERCENT OF HOUSEHOLDS WHO OWN CATS, 1996–2016



S1_FIG 19. TOP AND BOTTOM 10 STATES ACCORDING TO HOUSEHOLD CAT OWNERSHIP RATES ON DECEMBER 31, 2016



S1_TAB 19. HOW HOUSEHOLDS VIEWED THEIR CATS BY AGE OF RESPONDENT

Age	We Consider Our Cat(s) to Be:		
	Family Members	Companions	Property Under Our Care
	%	%	%
All	76.0%	20.0%	4.0%
19–29	76.0%	20.4%	3.6%
30–49	79.0%	17.9%	3.1%
50–64	77.2%	18.6%	4.2%
65 or More	69.5%	26.9%	3.6%

10 states with higher than average rates of cat-owning households in 2016 were Vermont (45%), Maine (44%), West Virginia (38%), Indiana (38%), New Hampshire (36%), Iowa (36%), Arkansas (35%), Idaho (33%), Wisconsin (32%) and Kansas (32%) (S1_FIG 19).

10 states with lower than average rates of cat ownership were Rhode Island (17%), Maryland (19%), New Jersey (19%), Louisiana (19%), Georgia (20%), Texas (21%), Illinois (21%), New York (21%), Montana (23%) and California (23%). The District of Columbia (16%) also had a low percentage of cat owners.

For the complete list of the percentages of households with cats, cat populations and trend information for the 48 contiguous states, please see S1_TAB 26 and S1_TAB 27 at the end of this chapter.

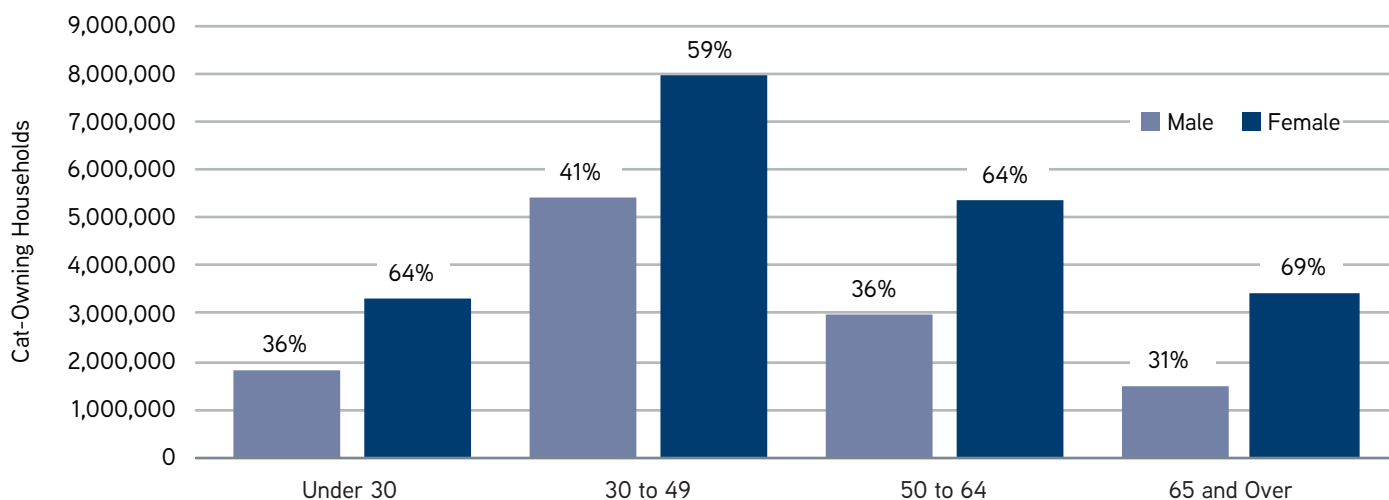
Three quarters (76%) of all cat owners viewed their cats as family members, while 20% considered them to be companions and 4% considered them to be property (S1_TAB 19). The bond with the cat varied somewhat with the age of the respondent. Older generation cat owners were less likely to consider their cat to be a member of their family (69.5%), and more likely to consider their cat to a companion (26.9%)—companions they have by choice!

Women continue to be the one responsible for cat care in almost two-thirds (63%) of all cat-owning households (S1_FIG 20).

The share of households where women are responsible for cats rises with age, from 52% among those under 50, to 64% for those 65 or older.

The average number of cats per cat-owning household at year-end 2016 was 1.8. This is the lowest average number of cats per cat-owning household measured since the survey began in 1987.

S1_FIG 20. AGE AND GENDER OF PERSON PRIMARILY RESPONSIBLE FOR CAT CARE, 2016



S1_TAB 20. PERCENT OF HOUSEHOLDS WHO OWNED CATS BY NUMBER OWNED AND AVERAGE NUMBER OF CATS, DECEMBER 31, 1987–2016

	1987	1991	1996	2001	2006	2011	2016
Number of Cats Owned	%	%	%	%	%	%	%
One (%)	57.4%	57.8%	48.0%	50.8%	48.2%	49.4%	53.5%
Two (%)	27.4%	23.9%	27.9%	26.8%	28.5%	28.7%	29.4%
Three (%)	8.2%	8.1%	10.7%	9.9%	10.2%	10.8%	8.6%
Four or More (%)	10.0%	10.2%	13.4%	12.6%	13.1%	11.1%	8.5%
Average Number of Cats (#)	2.0	2.0	2.2	2.1	2.2	2.1	1.8

Respondents to the 2017 PDS were asked how many cats they owned in each age category. Overall, just over half (54%) of the cat population was under the age of six in 2016 (S1_TAB 21; S1_FIG 21). Kittens (less than one year old) made up 13% of the total cat population, cats one to five years old made up 41%, cats six to 10 made up 27% and cats 11 or older made up 19% of the cat population. See S1_TAB 22 for the trend.

S1_TAB 21. AGE DISTRIBUTION OF PET CATS, DECEMBER 31, 2016

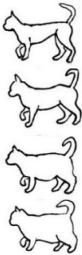
	Ages of Cats Owned, December 31, 2016				
	< 1 year old	1–5	6–10	11–5	16 or older
Percent	13%	41%	27%	15%	4%
Number (1,000s)	7,570	24,070	15,962	8,681	2,103

S1_TAB 22. PERCENT OF CATS BY AGE OF CAT, DECEMBER 31, 1987–2016

	1987	1991	1996	2001	2006	2011	2016
Age of Cat	%	%	%	%	%	%	%
Less Than 1	28.1%*	22.5%*	18.1%	16.6%	13.7%	12.1%	13.0%
1 to 5 Years	43.4%*	44.1%*	44.5%	40.9%	42.2%	38.0%	41.2%
6 to 10 Years	17.9%	22.4%	24.1%	25.7%	27.4%	29.5%	27.3%
11 Years or More	10.6%	11.0%	13.3%	16.8%	16.7%	20.4%	18.5%

**Prior to 1996, The First Two Age Ranges were "1 Year or Less" And "2 to 5 Years."*

S1_TAB 23. APPARENT BODY CONDITION OF CATS OWNED, DECEMBER 31, 2016

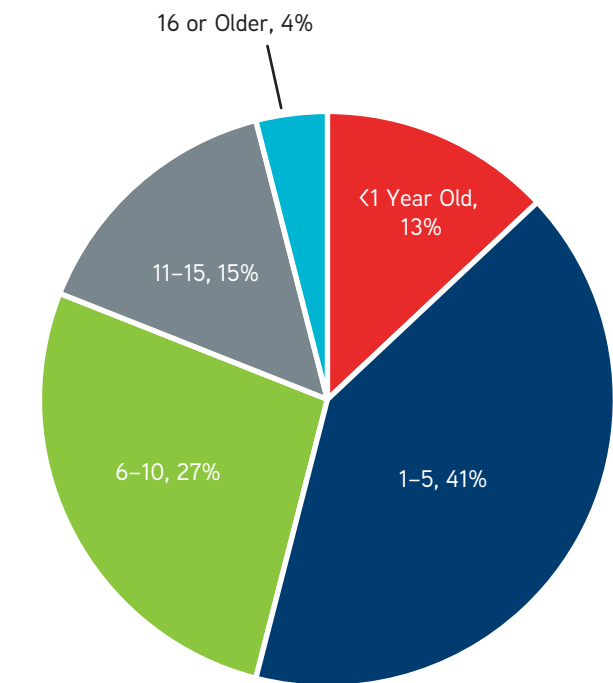


Body Condition		Percent of Cats	Number (1,000s)
Under 16% Body Fat	Underweight	14%	8,022
16–25% Body Fat	Ideal Weight	50%	29,325
26–35% Body Fat	Overweight	28%	16,431
36% or More Body Fat	Obese	8%	4,607

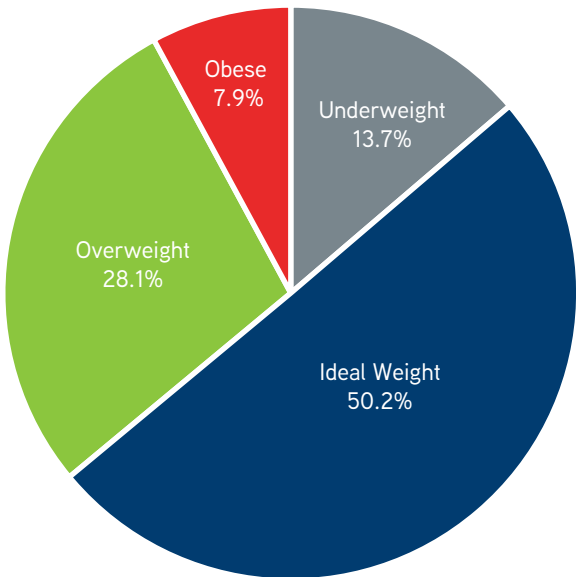
2017 PDS Respondents were shown four cat body condition images and asked to report how many of their cats had the illustrated body weights (S1_TAB 23). This is the second time that pet owners were asked to evaluate their pet’s body condition by matching images rather than selecting word-labelled categories. The first time was for the pretest of the 2017 PDS conducted for the AVMA in late 2016. More than two-thirds (36%) of cats owned at year-end 2016 appeared to their owners to be overweight or obese, which is about 21 million fat cats; 16 million appear overweight and under 5 million appear obese.

Exactly half of the cats in households at year end 2016 were considered by their owners to be ideal weight. That is a much more reasonable estimate than the 77% of cats deemed by their owners to be “average” weight in 2011, according to the 2012 PDS. As noted earlier, the 2017 PDS is the first survey to use pet images rather than words to document pet body shape. In it, 28% of the cats appeared to be overweight, 8% reportedly appeared obese and 14% of the cats were reported to appear underweight (S1_FIG 22).

S1_FIG 21. AGES OF PET CATS, DECEMBER 31, 2016



S1_FIG 22. WEIGHT OF PET CATS ON DECEMBER 31, 2016



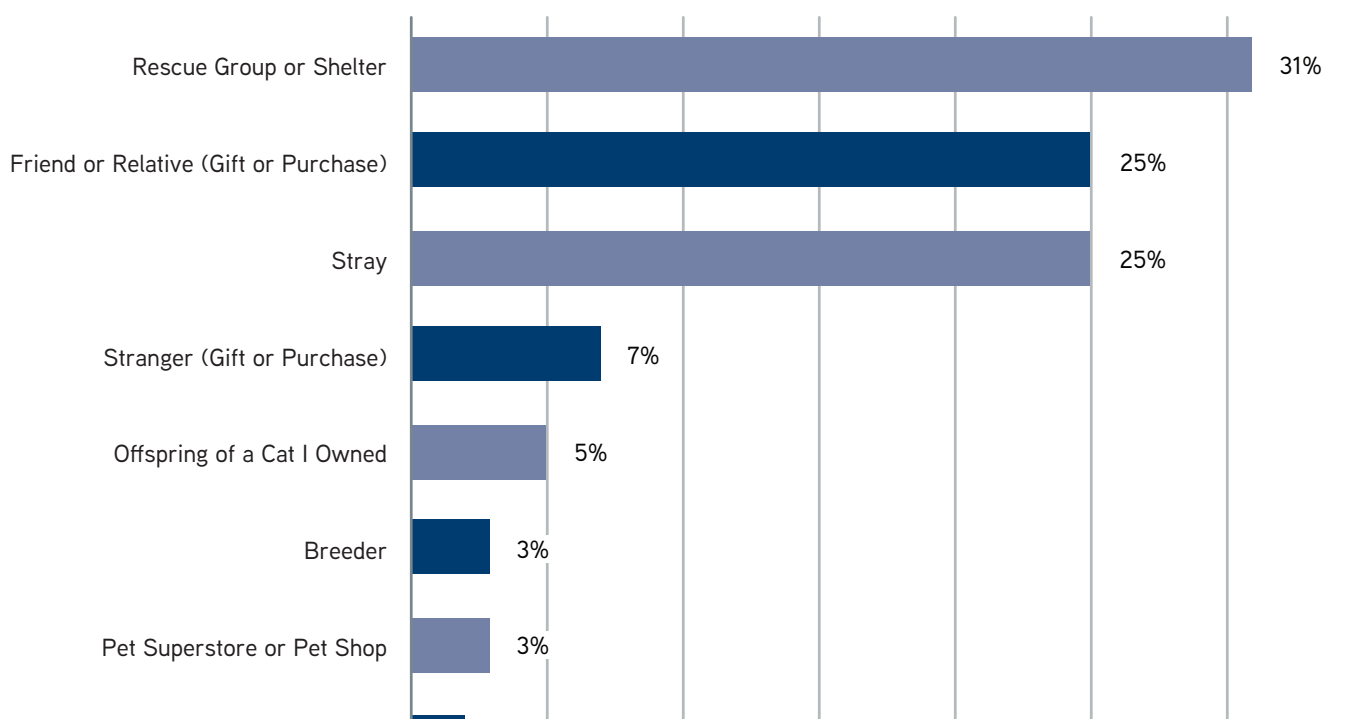
2017 PDS respondents were also asked for the first time how many of the cats in their household on December 31, 2016, were fixed; and if so, when: before they got them or after. From this survey data the percentages of the pet cat population that are spayed or neutered is estimated. More than four-fifths (80%), or about 47 million pet cats, were fixed by the end of 2016 (S1_TAB 24). Just under two-thirds (62%) of the cats that were fixed, which is about 29 million cats, were spayed or neutered by their current owners. The other 17.8 million cats were sterilized before joining their current owners.

S1_TAB 24. PERCENT OF CATS STERILIZED/NOT, BY OR BEFORE THE CURRENT OWNER, DECEMBER 31, 2016

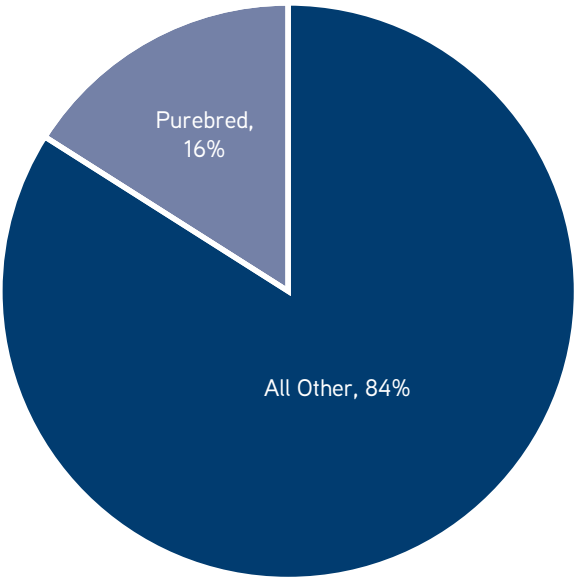
	Percent	Number (1,000s)
Not Fixed	20%	11,537
Fixed	80%	46,849
Fixed Before	38%	17,777
Fixed After	62%	29,071

Respondents to the 2017 PDS were also asked where they obtained their most recently acquired cat. Shelters and rescue groups were the largest source of cats (31%) (S1_FIG 23). Friends or relatives were the source of the next largest portion (25%), followed by strays (25%). In contrast with dogs, the shares acquired from breeders (22% of dogs, 3% of cats) or as strays (5% of dogs, 25% of cats) are mirror images. Purchases or gifts from strangers are the next largest source of pet cats (7%), followed by offspring of a cat already owned (5%), purchases from a pet shop or pet superstore (3%), breeders (3%) and veterinarians (2%).

S1_FIG 23. ACTUAL SOURCE OF MOST RECENTLY ACQUIRED CAT, 2016



S1_FIG 24. TYPE OF CAT(S) OWNED, DECEMBER 31, 2016



S1_TAB 25. HOUSEHOLDS WITH PET HEALTH INSURANCE, WELLNESS PLANS OR BOTH, PERCENTAGES AND NUMBERS OF CATS COVERED, DECEMBER 31, 2016

	Percent of Households	Number of Households (1,000s)	Percent of Cats	Number of Cats (1,000s)
Pet Health Insurance	8.0%	2,476	6.7%	3,912
Wellness Plan	6.0%	1,995	5.5%	3,214
Both	4.0%	1,138		

Given the relatively small percentage of cats acquired from breeders, it is not surprising that just 16% of cats owned at year-end 2016 were purebred (S1_FIG 24). In contrast, about half of dogs owned (49%) were reported to be purebreds.

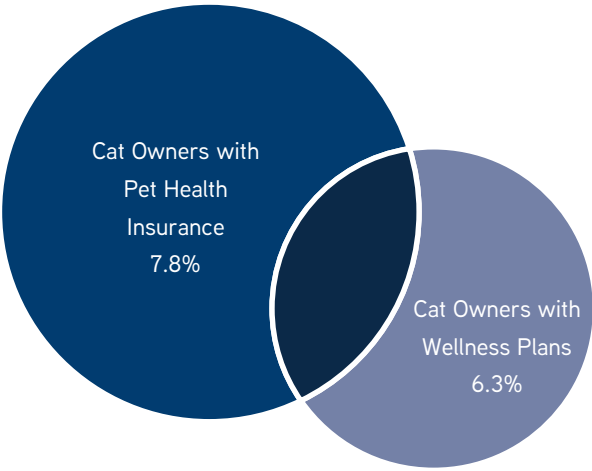
Respondents to the 2017 PDS were also asked for the first time to report how many of their cats were covered by pet health insurance or a wellness plan on December 31, 2016. From this data the share and number of cat-owning households who have purchased pet health insurance is estimated, as well as the share and number of covered cats (S1_TAB 25).

At year-end 2016, 8%, or more than 2.4 million, cat-owning households reported having at least one cat covered by pet health insurance. Households do not necessarily purchase pet health insurance for all the cats they own. A slightly smaller percentage (6.7%) of cats, which is almost 4 million cats, were covered by pet health insurance. Note that cats are covered at about half the rate at which dogs are covered by pet health insurance.

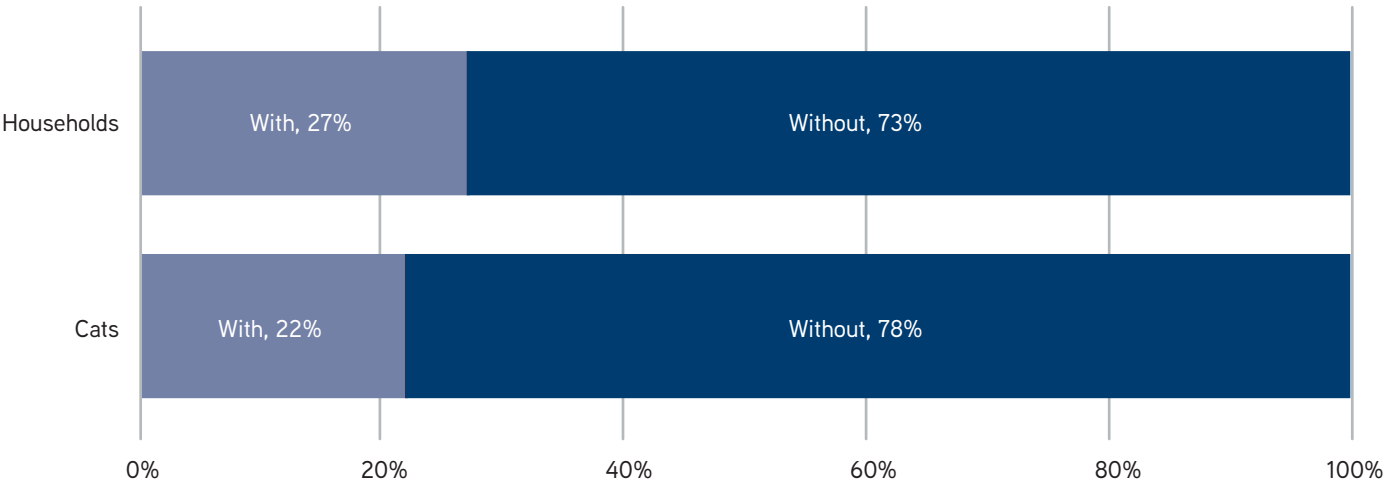
The shares and numbers of cat-owning households and of cats with wellness plans is similarly estimated to be 6% of cat-owning households, and 5.5% of cats. That is more than 3.2 million cats in almost 2 million households (S1_TAB 25).

Finally, although we did not ask how many of the cats owned on December 31, 2016, were covered by both pet health insurance and a wellness plan, the data do reveal the households who had both (S1_FIG 25). More than 4%, or over 1 million cat-owning households, had both (S1_TAB 25). This count includes, for example, households with more than one cat that have at least one cat covered by a wellness plan, another covered by pet health insurance and others covered by neither, as well as households with one or more cats covered by both.

S1_FIG 25. PERCENTAGES OF CAT-OWNING HOUSEHOLDS WHO HAD CATS COVERED BY PET HEALTH INSURANCE, WELLNESS PLANS OR BOTH, DECEMBER 31, 2016



S1_FIG 26. PERCENT OF CATS AND CAT-OWNING HOUSEHOLDS WITH REGISTERED IDS, 2016



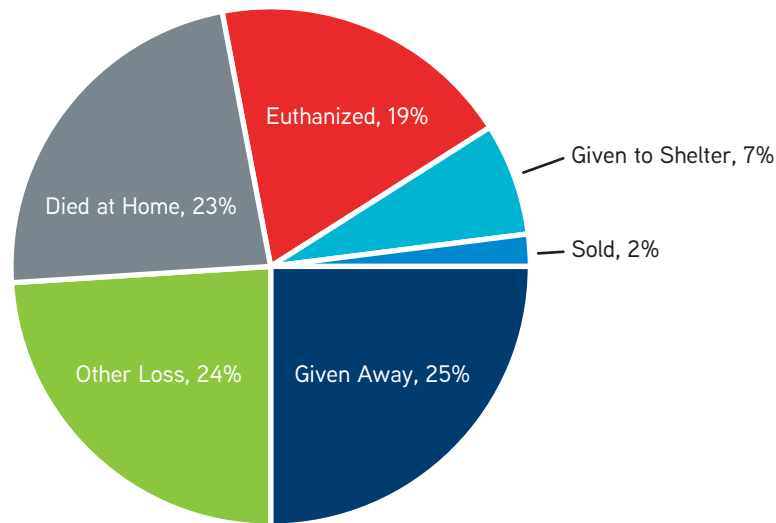
Also for the first time, this PDS survey asked how many cats owned at year-end had a registered ID microchip or tattoo. More than a quarter of all cat-owning households (27%) had at least one cat with a registered permanent ID (S1_FIG 26). Less than a quarter of all cats (22%) had registered microchip or tattoo ID at year-end 2016.

December 31, 2016, indicates the number of cats that died, were sold or given away, or that left the household some other way during the year. Of the 62 million cats owned at any time during 2016, 3.65 million (8%) were no longer with those owners at year-end.

A quarter (25%) were given away (S1_FIG 27). Almost another quarter (23%) died at home, and 19% were euthanized. Under 7% were given to shelters, 2% were reported sold and 24% left the household some other way—such as “ran away.” This portion is corroborated by the data showing that a very similar portion of cats were acquired as “strays” (recall “S1_FIG 23. Actual source of most recently acquired cat”).

Obviously, not all cat-owning households own all their cats for the full year. New data collected for the 2017 PDS allows us to estimate the number of “full-time equivalent” cats owned during the year.

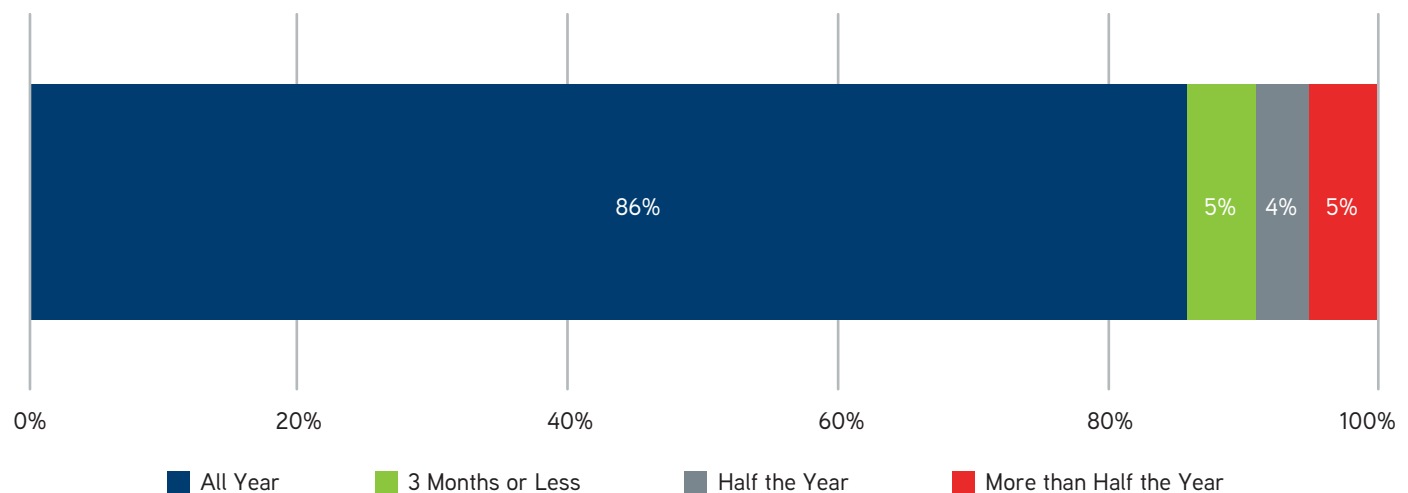
S1_FIG 27. DESTINATIONS OF CATS THAT LEFT THE HOUSEHOLD IN 2016



More than 86% of the cats owned at any time during 2016, or almost 54 million cats, were owned for the full year (S1_FIG 28). Almost 5% were owned for less than a quarter of the year, 4% for up to half the year and more than 5% owned for more than half the year but not all year. The implication is that there were just under 57 million “full-time equivalent” cats owned during 2016, which equals 97% of the 58.4 million estimated pet cat population on December 31.

Among the nine census regions, the region with the highest percentage of cat-owning households in the U.S. was East South Central (30%) (S1_TAB 26). The West North Central (29%) and East North Central (29%) also have a higher rate of cat ownership compared to the national average of 25.4%. The Pacific (24%), South Atlantic (24%), Middle Atlantic (23%) and West South Central (22%) regions were below the national average—but not significantly below.

S1_FIG 28. PORTION OF YEAR CATS WERE OWNED, 2016



The number of households with cats in each state was estimated by multiplying the percentage of household respondents in the state who owned cats by the total number of households in each state. The cat population was estimated by multiplying the number of cat-owning households in each state by the average number of cats per household in each state.

The three states with the highest population of cats were of course the most populous states: California (5.6 million), Texas (4.1 million) and Florida (3.6 million).

S1_TAB 26. PERCENT OF HOUSEHOLDS WHO OWNED CATS, NUMBER OF CAT-OWNING HOUSEHOLDS, AVERAGE NUMBER OF CATS PER HOUSEHOLD AND TOTAL CAT POPULATION BY REGION AND STATE, DECEMBER 31, 2016

	Number of Households (1,000s)*	Percent of Households Who Owned Cats	Number of Cat-Ownning Households (1,000s)	Average Number of Cats per Household	Cat Population (1,000s)
United States	125,819	25.4%	31,896	1.8	58,385
New England	5,967	26.9%	1,603	1.7	2,713
Connecticut	1,430	26.7%	382	1.9	739
Maine	606	43.6%	264	1.9	500
Massachusetts	2,714	23.5%	638	1.6	1,012
New Hampshire	502	36.4%	183	1.5	266
Rhode Island	450	16.7%	75	2	151
Vermont	265	44.6%	118	1.3	150
Middle Atlantic	16,379	22.9%	3,756	1.8	6,857
New Jersey	3,414	18.9%	647	1.6	1,009
New York	7,849	21.1%	1,658	1.7	2,841
Pennsylvania	5,116	28.9%	1,476	2.1	3,084
East North Central	18,950	29.3%	5,559	1.8	6,148
Illinois	5,138	21.0%	1,081	1.7	1,666
Indiana	2,670	37.5%	1,000	1.9	856
Michigan	4,071	31.2%	1,271	1.7	1,235
Ohio	4,682	30.7%	1,438	1.9	1,590
Wisconsin	2,389	32.4%	774	1.9	801
West North Central	8,505	29.5%	2,505	2	4,939
Iowa	1,298	35.6%	462	2	912
Kansas	1,136	32.4%	368	2.1	785
Minnesota	2,234	26.5%	563	1.9	1,108
Missouri	2,417	28.6%	692	1.9	1,319
Nebraska	736	30.9%	227	2.3	520
North Dakota	328	24.8%	81	2.8	230
South Dakota	356	26.6%	95	1.4	133

S1_TAB 26. CONTINUED

	Number of Households (1,000s)*	Percent of Households Who Owned Cats	Number of Cat-Ownning Households (1,000s)	Average Number of Cats per Household	Cat Population (1,000s)
South Atlantic	25,325	23.8%	6,033	1.8	11,079
Delaware	399	24.1%	96	1.8	169
District of Columbia	321	16.4%	53	1	53
Florida	8,260	24.2%	2,002	1.8	3,584
Georgia	3,999	20.4%	814	2.1	1,710
Maryland	2,261	18.6%	421	1.7	703
North Carolina	4,022	26.5%	1,064	1.8	1,916
South Carolina	2,002	25.2%	504	1.6	809
Virginia	3,306	23.9%	790	1.9	1,491
West Virginia	755	37.7%	284	2.1	595
East South Central	7,747	29.9%	2,315	1.9	4,435
Alabama	1,984	26.1%	518	1.7	859
Kentucky	1,874	32.2%	604	1.8	1,065
Mississippi	1,153	29.1%	336	2	661
Tennessee	2,736	30.9%	845	2.2	1,819
West South Central	14,750	22.3%	3,294	1.9	6,343
Arkansas	1,211	34.8%	421	2.1	876
Louisiana	1,847	19.0%	352	1.7	590
Oklahoma	1,587	28.4%	450	1.8	795
Texas	10,105	20.5%	2,071	2	4,066
Mountain	9,100	26.1%	2,373	1.8	2,914
Arizona	2,624	26.4%	692	2	907
Colorado	2,221	27.1%	602	1.6	671
Idaho	648	33.3%	216	2	173
Montana	435	22.8%	99	1.8	112
Nevada	1,122	23.1%	259	1.7	428
New Mexico	796	25.2%	200	1.8	193
Utah	1,014	24.7%	251	1.9	365
Wyoming	240	30.0%	72	1.8	65
Pacific	18,361	24.3%	4,464	1.7	7,758
California	13,911	22.9%	3,190	1.7	5,571
Oregon	1,606	30.0%	481	1.6	790
Washington	2,844	30.5%	867	1.8	1,527

*U.S. Census Bureau: 2016 Current Population Survey

S1_TAB 27. TRENDS IN CAT OWNERSHIP BY REGION AND STATE, DECEMBER 31, 2001–2016

	2001		2006		2011		2016	
	% of Households	Cat Pop. (1,000s)	% of Households	Cat Pop. (1,000s)	% of Households	Cat Pop. (1,000s)	% of Households	Cat Pop. (1,000s)
United States	31.6%	70,796	32.4%	81,721	30.4%	74,059	25.4%	58,385
New England	35.3%	3,632	38.8%	4,221	35.0%	3,635	26.9%	2,713
Connecticut	35.6%	788	35.4%	950	31.9%	796	26.7%	739
Maine	46.3%	552	56.4%	638	46.4%	498	43.6%	500
Massachusetts	32.7%	1,518	34.6%	1,510	34.1%	1,593	23.5%	1,012
New Hampshire	39.9%	322	44.3%	498	34.2%	309	36.4%	266
Rhode Island	28.0%	274	36.6%	318	27.6%	212	16.7%	151
Vermont	38.8%	178	53.3%	315	49.5%	234	44.6%	150
Middle Atlantic	28.5%	8,781	29.6%	9,510	29.9%	9,272	22.9%	6,857
New Jersey	24.4%	1,645	26.8%	1,703	25.3%	1,468	18.9%	1,009
New York	28.1%	3,966	28.7%	4,340	29.1%	4,261	21.1%	2,841
Pennsylvania	31.6%	3,170	32.5%	3,421	33.8%	3,544	28.9%	3,084
East North Central	30.3%	10,992	31.1%	12,528	31.2%	12,118	29.3%	10,153
Illinois	28.0%	2,572	26.9%	2,692	26.3%	2,453	21.0%	1,839
Indiana	33.0%	1,696	32.1%	1,821	34.4%	1,912	37.5%	1,936
Michigan	31.1%	2,473	32.5%	2,814	31.3%	2,420	31.2%	2,222
Ohio	30.3%	2,964	32.4%	3,553	33.3%	3,786	30.7%	2,685
Wisconsin	30.9%	1,289	33.1%	1,612	33.0%	1,510	32.4%	1,467
West North Central	32.2%	5,783	34.1%	6,692	31.5%	5,430	29.5%	4,939
Iowa	28.0%	836	34.7%	1,006	30.3%	805	35.6%	912
Kansas	33.6%	872	41.2%	1,239	33.3%	731	32.4%	785
Minnesota	30.4%	1,210	31.9%	1,511	29.7%	1,264	26.5%	1,108
Missouri	33.7%	1,849	33.0%	1,889	32.2%	1,653	28.6%	1,319
Nebraska	35.9%	550	33.7%	639	31.3%	514	30.9%	520
North Dakota	38.2%	206	32.2%	171	31.4%	174	24.8%	230
South Dakota	30.9%	260	31.7%	238	39.1%	290	26.6%	133

S1_TAB 27. CONTINUED

	2001		2006		2011		2016	
	% of Households	Cat Pop. (1,000s)	% Of Households	Cat Pop. (1,000s)	% Of Households	Cat Pop. (1,000s)	% Of Households	Cat Pop. (1,000s)
South Atlantic	29.4%	12,335	30.6%	15,223	28.5%	14,246	23.8%	11,079
Delaware	31.5%	160	33.3%	262	33.7%	187	24.1%	169
District of Columbia	11.4%	51	13.7%	54	11.6%	63	16.4%	53
Florida	29.2%	3,701	28.8%	4,633	27.3%	4,375	24.2%	3,584
Georgia	28.6%	1,891	30.7%	2,485	27.3%	2,162	20.4%	1,710
Maryland	26.5%	997	29.7%	1,307	29.8%	1,677	18.6%	703
North Carolina	29.6%	2,040	31.1%	2,409	29.5%	2,220	26.5%	1,916
South Carolina	30.4%	1,026	29.4%	1,157	27.8%	1,039	25.2%	809
Virginia	31.5%	1,785	33.4%	2,107	29.0%	1,855	23.9%	1,491
West Virginia	35.7%	683	39.6%	720	38.1%	628	37.7%	595
East South Central	30.1%	4,440	31.7%	5,355	31.1%	5,057	29.9%	4,435
Alabama	29.4%	1,072	31.0%	1,281	27.4%	1,252	26.1%	859
Kentucky	34.5%	1,317	32.9%	1,392	36.8%	1,349	32.2%	1,065
Mississippi	26.1%	601	28.6%	835	29.1%	668	29.1%	661
Tennessee	29.5%	1,449	32.5%	1,830	29.8%	1,749	30.9%	1,819
West South Central	31.9%	8,079	31.0%	9,413	28.8%	8,348	22.3%	343
Arkansas	32.5%	746	36.3%	983	30.6%	810	34.8%	876
Louisiana	26.1%	951	23.3%	761	25.9%	877	19.0%	590
Oklahoma	32.9%	1,015	34.2%	1,218	32.6%	1,041	28.4%	795
Texas	33.0%	5,367	31.1%	6,446	28.3%	5,565	20.5%	4,066
Mountain	33.9%	4,786	34.5%	5,859	30.7%	5,048	26.1%	4,303
Arizona	32.3%	1,289	30.6%	1,419	29.6%	1,438	26.4%	1,365
Colorado	31.8%	1,054	34.3%	1,472	32.3%	1,191	27.1%	967
Idaho	44.6%	440	48.4%	517	34.6%	393	33.3%	428
Montana	44.6%	384	42.2%	494	33.6%	277	22.8%	174
Nevada	29.3%	462	28.4%	521	30.3%	625	23.1%	427
New Mexico	33.9%	506	39.1%	693	32.0%	533	25.2%	357
Utah	32.4%	477	34.0%	553	24.6%	455	24.7%	486
Wyoming	44.6%	173	38.9%	191	33.9%	144	30.0%	130
Pacific	37.2%	11,966	36.5%	12,942	31.7%	10,341	24.3%	7,758
California	35.4%	8,551	32.6%	8,775	28.3%	7,118	22.9%	5,571
Oregon	45.2%	1,327	52.2%	1,706	40.2%	1,185	30.3%	790
Washington	41.8%	2,088	44.5%	2,316	39.0%	1,844	30.5%	1,527



chapter 5: **BIRD OWNERSHIP**

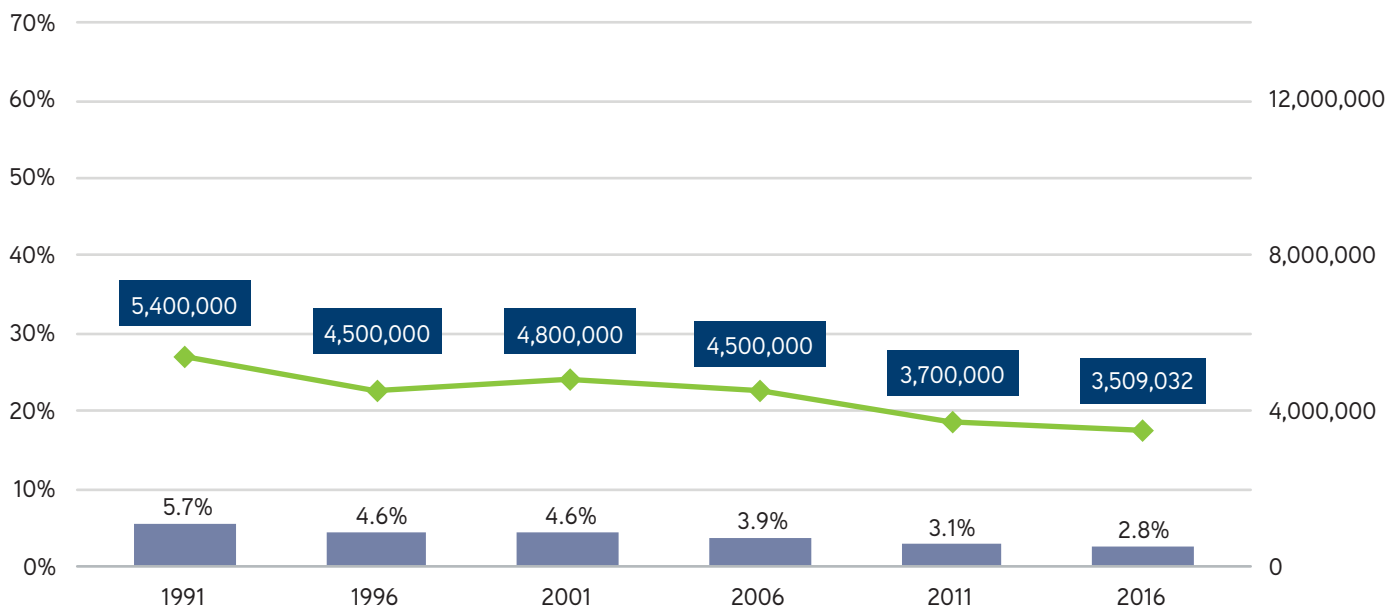
In 2016, 3.0% of all U.S. households owned a pet bird at some time. By year-end 2016, however, 2.8% of all U.S. households owned one.

This represents a decline from the 3.1% of households who owned a pet bird on December 31, 2011 (S1_FIG 29). Approximately 3.5 million U.S. households owned a bird in 2016, compared to 3.7 million in 2011. The decline is a leveling of the long-run trend. Pet bird ownership rates have dropped more than 50 percent in the past 25 years.

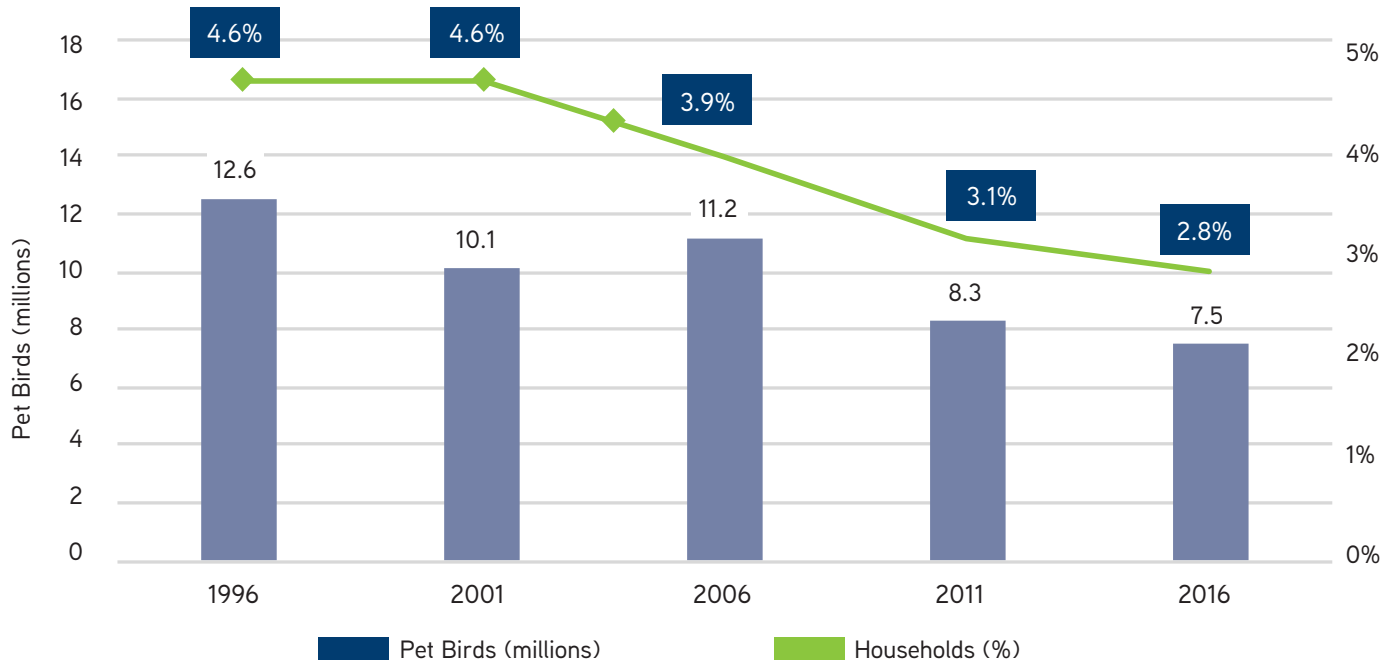
Although all 50,000 surveyed households were asked if they owned pet birds, bird ownership can be reported only at the regional level due to insufficient observations for statistically accurate estimates of pet bird ownership in most states.

Pet bird ownership was higher in the West North Central (3.3%) region (S1_FIG 31). The New England (3.1%), East North Central (3.0%) and South Atlantic (3.0%) regions were also above the national average rate of 2.8%, while the Pacific region rate (2.8%) was at the national average. Lower rates of bird ownership were in the Middle Atlantic (2.6%), West South Central (2.6%), East South Central (2.4%) and Mountain (2.1%) regions. For detailed information on bird ownership and trends for all regions, please see S1_TAB31 and S1_TAB32 at the end of this chapter.

S1_FIG 29. PERCENT AND NUMBER OF HOUSEHOLDS WHO OWNED A PET BIRD, DECEMBER 31, 1991–2016

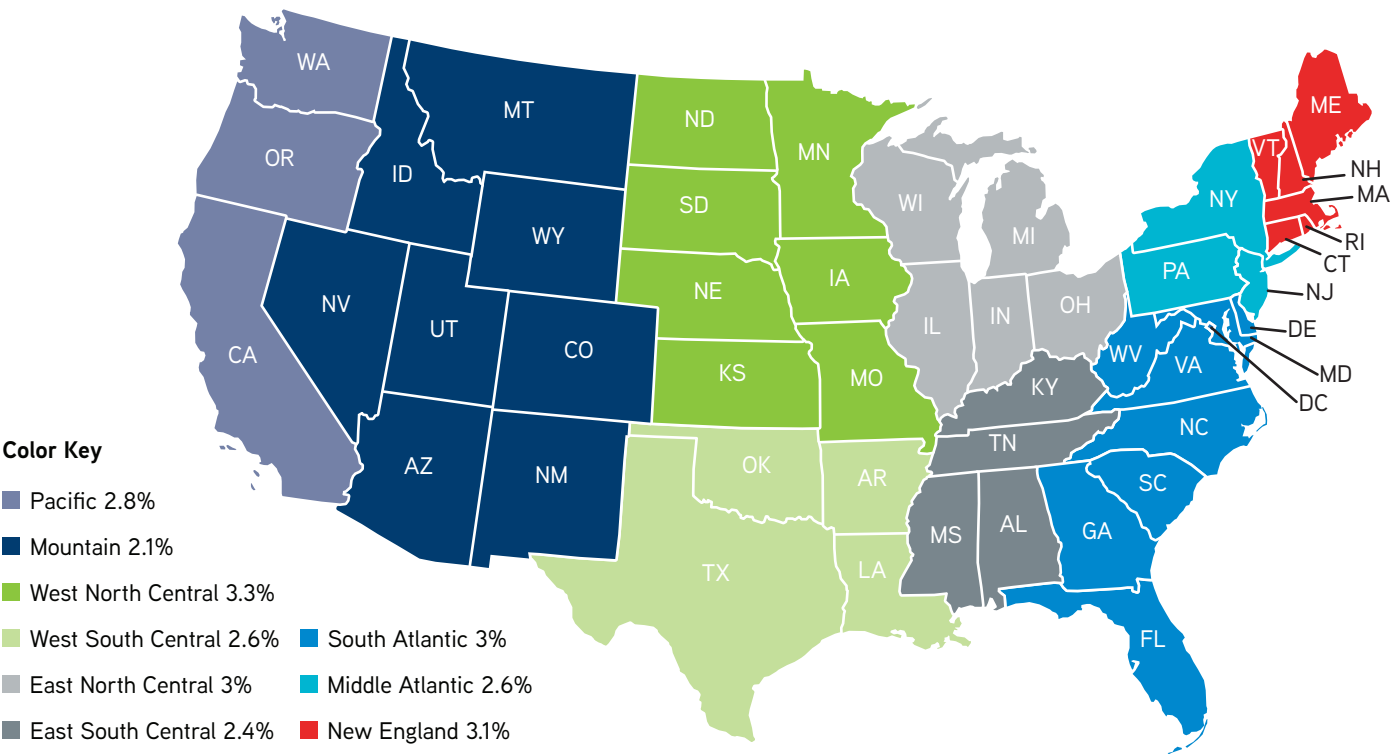


S1_FIG 30. PET BIRD POPULATIONS AND OWNERSHIP RATES, 1996–2016



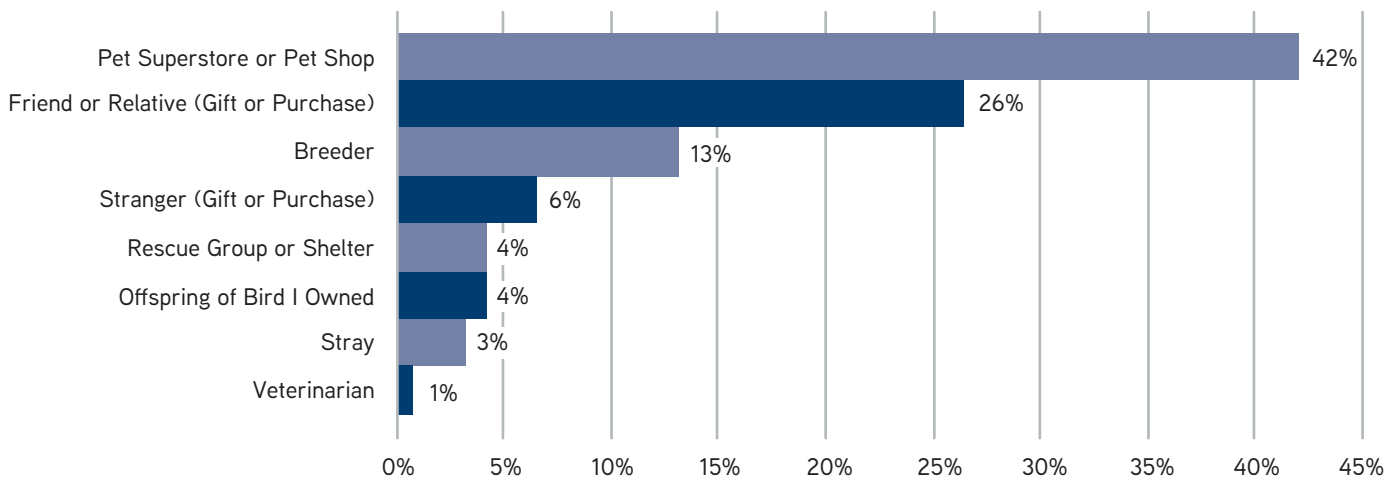
The Pet Bird Population was Approximately 7.5 Million at Year-End 2016 (S1_TAB 32 and S1_FIG 30).

S1_FIG 31. PERCENT OF HOUSEHOLDS WHO OWNED PET BIRDS BY REGION, DECEMBER 31, 2016



For the first time, the 2017 PDS asked bird owners about the actual source of their most recently acquired bird. Pet superstores or pet shops are the largest source (42%), followed by friends or relatives (26%)—either as a gift or purchase (S1_FIG 32). Thirteen percent of the pet birds in 2016 were acquired from breeders, 6% were purchased from or given by strangers, 4% were adopted from a rescue group or shelter, 4% offspring of a bird they owned, 3% were strays and finally 1% from a veterinarian (S1_FIG 32).

S1_FIG 32. ACTUAL SOURCE OF PET BIRDS, 2016



Well over half (57%) of pet bird owners in the United States considered birds to be family members, whereas a third considered birds to be companions, and under 10% considered birds to be property (S1_TAB 28).

S1_TAB 28. HOW OWNERS VIEWED THEIR PET BIRDS BY AGE OF RESPONDENT, 2016

	We Consider Our Pet Bird(s) to Be:		
	Family Member(s)	Companion(s)	Property Under Our Care
Age of Respondent	%	%	%
All	57.0%	33.3%	9.6%
19–29	51.1%	39.4%	9.5%
30–49	55.5%	34.2%	10.3%
50–64	63.7%	29.4%	6.9%
65 or More	57.4%	33.3%	9.3%

About 6% of the households who owned pet birds at any time in 2016 answered, “Yes,” they do plan to acquire another bird (S1_TAB 29). This is approximately 239,000 households. The majority (78%), or 2.9 million households, answered, “No;” and 16% did not know.

S1_TAB 29. PERCENT AND NUMBER OF HOUSEHOLDS PLANNING TO ACQUIRE A NEW BIRD

	Yes	No	Don't Know
Percent of Households Who Owned Birds	6%	78%	16%
Number of Households (1,000s)	239	2,987	599

For the first time, the 2017 PDS asked respondents how many of their pet birds were covered by insurance of some kind. More than 3.5% of all pet birds, or about 265,000 pet birds, were covered by pet health insurance, and 2.1%, or 160,000 pet birds, were covered by a wellness plan (S1_TAB 30). Of the bird-owning households, almost 2% of bird owners, or about 76,000 U.S. households, had birds covered by both pet health insurance and wellness plans.

S1_TAB 30. NUMBERS AND PERCENTAGES OF PET BIRDS WITH PET HEALTH INSURANCE AND/OR WELLNESS PLANS FOR THEIR BIRDS, 2016

	Percent	Number (1,000s)
Pet Birds Covered by Pet Health Insurance	3.5%	265
Pet Birds Covered by a Wellness Plan	2.1%	160
Bird-Ownning Households with Both	2.0%	76

The average number of birds per bird-owning household was 2.1 in 2016, down from 2.3 pet birds per household in 2011 (S1_TAB 31), and 2.3 pet birds owned at any time in 2016. The share of bird owners with only one bird (54%) is lower, but the share with two birds (27%) is the highest measured during the period beginning in 1987. The shares of households owning three (7%) and four or more (12%) in 2016 were within the usual range.

S1_TAB 31. PERCENT OF HOUSEHOLDS WHO OWNED BIRDS BY NUMBER OWNED AND AVERAGE NUMBER OF BIRDS, DECEMBER 31, 1987–2016

Number of Birds Owned	1987	1991	1996	2001	2006	2011	2016
One	64%	66%	53%	59%	55%	57%	54%
Two	22%	21%	25%	22%	25%	25%	27%
Three	5%	5%	8%	7%	7%	6%	7%
Four or More	10%	9%	14%	13%	13%	12%	12%
Average Number of Birds	2.5	2.2	2.7	2.1	2.5	2.3	2.1

Clearly, the average number of birds per household in prior survey years, such as 2011, has depended inordinately on the relatively small portion of owners with four or more pet birds. A tiny share (1.8%) of households who owned pet birds at some time during 2016 reported that their pet birds were "primarily for sale." This is just one-half of one percent (0.05%) of all U.S. households.

The number of households who owned birds in each state was estimated by multiplying the percentage of bird owners by the total number of households in each state. The total bird population was estimated by multiplying the number of households in each state by the average number of birds per household in each state. Due to the low number of bird-owning households in each state, regional data are provided (S1_TAB 32).

The percent of households who owned birds declined in all but three regions since 2011 (S1_TAB 33). Bird ownership has fallen in all regions except for the West North Central, the East North Central and New England. West North Central, however, has been declining, according to our analysis, since 2001, only increasing in 2016. Among all census regions, the South Atlantic region had the highest population of birds (1.6 million) in 2016, whereas East South Central (383,000) had the lowest number of birds.

S1_TAB 32. PERCENT AND NUMBER OF HOUSEHOLDS WHO OWNED BIRDS, AVERAGE BIRDS PER HOUSEHOLD, AND TOTAL BIRD POPULATION BY REGION, DECEMBER 31, 2016

	Number of Households (1,000s)*	Percent of Households Who Owned Pet Birds	Number of Bird-Owning Households (1,000s)	Average Number of Birds per Household	Bird Population (1,000s)
United States	125,819	2.8%	3,509	2.1	7,538
New England	5,967	3.1%	184	2.5	457
Middle Atlantic	16,379	2.6%	427	1.7	723
East North Central	18,950	3.0%	560	1.6	873
West North Central	8,505	3.3%	284	2.5	702
South Atlantic	25,325	3.0%	759	2.2	1,639
East South Central	7,747	2.4%	183	2.1	383
West South Central	14,750	2.6%	382	2	754
Mountain	9,100	2.1%	195	2	395
Pacific	18,361	2.8%	509	3	1,536

**U.S. Census Bureau: 2016 Current Population Survey*

S1_TAB 33. TRENDS IN BIRD OWNERSHIP BY REGION, DECEMBER 31, 2001-2016

	2001		2006		2011		2016	
	% of Households	Bird Pop. (1,000s)	% of Households	Bird Pop. (1,000s)	% of Households	Bird Pop. (1,000s)	% of Households	Bird Pop. (1,000s)
United States	4.6%	10,105	3.9%	11,199	3.1%	8,300	2.8%	7,538
New England	4.0%	409	4.2%	721	2.7%	312	3.1%	457
Middle Atlantic	4.3%	1,281	3.2%	968	3.3%	1,205	2.6%	723
East North Central	4.1%	1,485	3.1%	1,150	2.8%	1,203	3.0%	873
West North Central	3.6%	512	3.0%	689	2.4%	438	3.3%	702
South Atlantic	4.7%	1,877	3.8%	2,069	3.1%	1,716	3.0%	1,639
East South Central	3.7%	513	3.9%	613	2.7%	354	2.4%	383
West South Central	4.5%	1,132	4.1%	1,244	3.0%	778	2.6%	754
Mountain	5.0%	705	4.4%	1,028	3.1%	599	2.1%	395
Pacific	6.3%	2,189	5.2%	2,714	3.9%	1,642	2.8%	1,536





chapter 6: HORSE OWNERSHIP

Horses are commonly owned and cared for on ranches, farms and other horse operations, for work as draft animals, for police work or for professional sports (racing, rodeo, etc.), as well as by households for pleasure, for riding and just as pets.

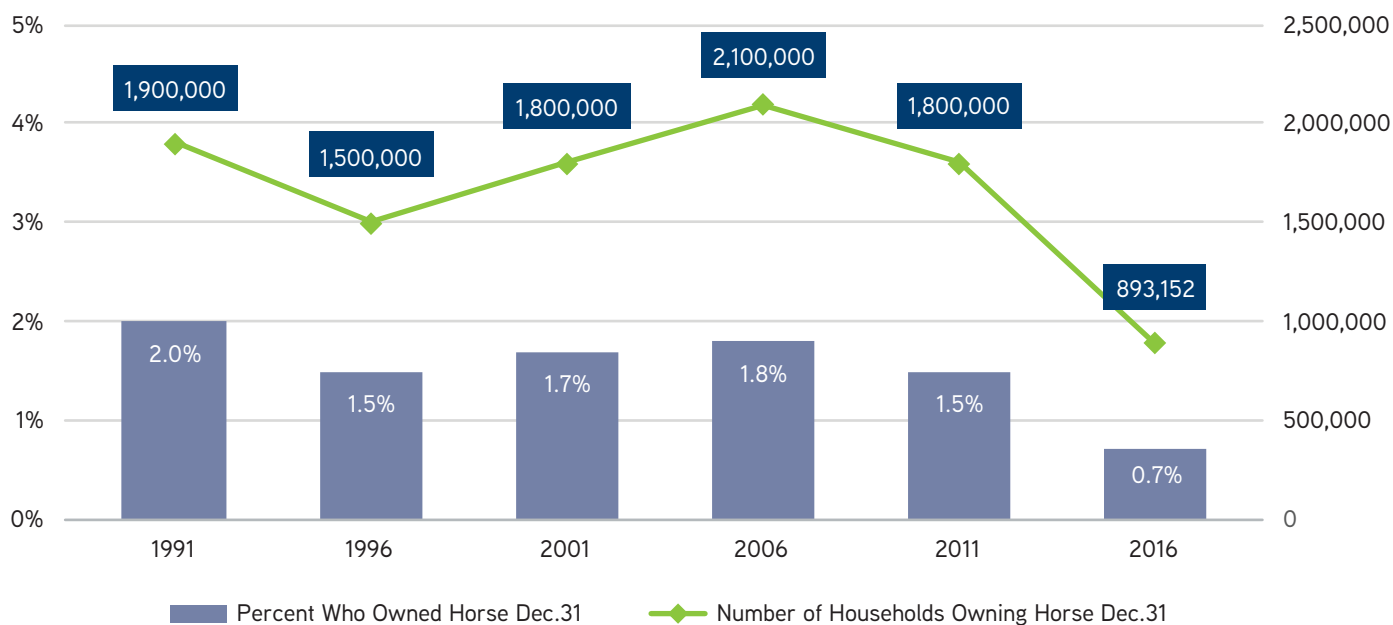
There is also a sizeable wild horse population of about 60,000 on Bureau of Land Management (<https://www.blm.gov/programs/wild-horse-and-burro/about-the-program/program-data>). This survey, however, solicited responses only from horse owners who consider their horses to be pets.

Nationally, 0.7% of U.S. households owned pet horses on December 31, 2016, which is 53% lower than the 1.5% who owned at year-end 2011 (S1_FIG 33). There were more than 893,000 horse-owning households at year-end 2016. At an average 2.14 horses per owning household, this is an estimated pet horse population of 1.9 million (S1_TAB 34). Compared to the estimated 4.9 million horses in 2011, this looks like a pet horse population decline of 61% in five years.

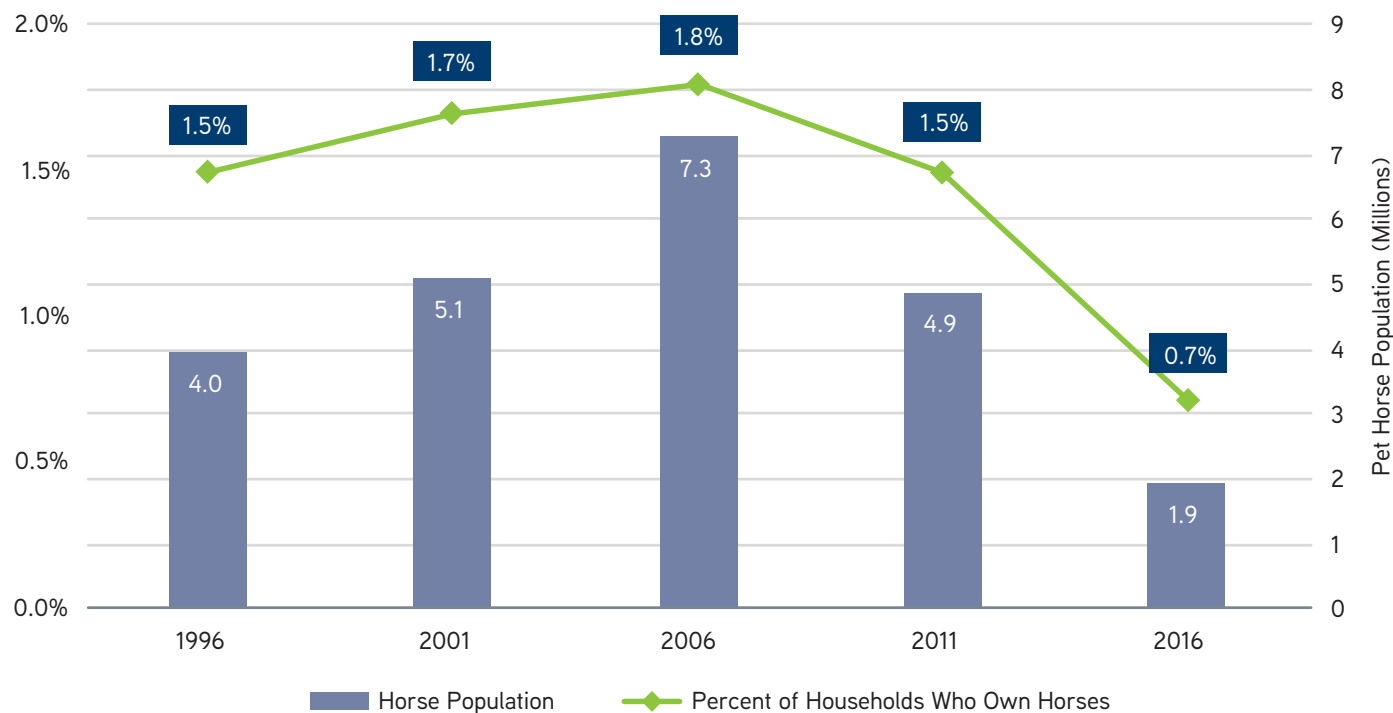
There are at least three plausible explanations for the drop seen. One, December 2016 may have been an unusual month. A higher rate of 0.8% owned pet horses at some time during 2016, but only 0.7% owned them on December 31, 2016. At an average of 2.11 pet horses per household, there were 2.1 million pet horses at some time during 2016, 10% more than there were on December 31, 2016. Two, as in the case of cat ownership, 2016 may have been the trough of a pet horse cycle. Three, methodological improvements in the 2017 PDS result in more accurate pet horse estimates that are not comparable to the overestimates in other surveys.

There were 1.9 million pet horses in the United States at year-end 2016, down from 4.9 million on December 31, 2011 (S1_TAB 34, S1_FIG 34).

S1_FIG 33. PERCENTAGES AND NUMBERS OF HOUSEHOLDS WHO OWNED A HORSE ON DECEMBER 31, 1991–2016



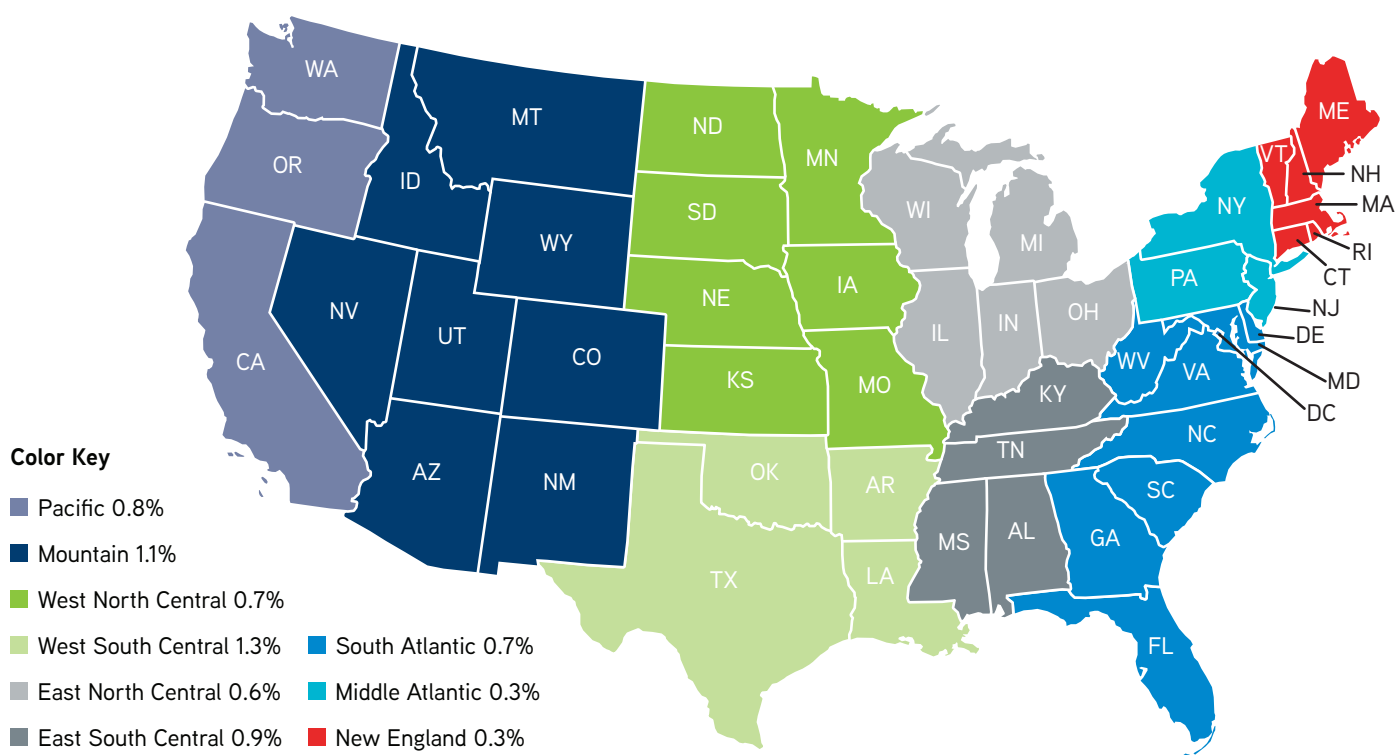
S1_FIG 34. PERCENT OF HOUSEHOLDS WITH PET HORSES AND PET HORSE POPULATIONS, DECEMBER 31, 1996–2016



Although all 50,000 surveyed households answered whether or not they owned a pet horse or not in 2016, there are insufficient numbers of pet horse-owning respondents at the state level to develop statistically valid estimates of state-level horse ownership rates. Therefore, horse ownership rates are estimated on the national and regional bases only.

The rate of horse ownership was highest in the West South Central (1.3%), Mountain (1.1%) and East South Central (0.9%) regions (S1_FIG 35; S1_TAB 34). The Pacific (0.8%) region was slightly above the national average, while the West North Central (0.7%) and South Atlantic (0.7%) regions were the same as the national average. The East North Central (0.6%) was slightly below the national average, but the lowest rates of pet horse ownership were found in the New England (0.3%) and Middle Atlantic (0.3%) regions.

S1_FIG 35. PERCENT OF HOUSEHOLDS WHO OWNED HORSES BY REGION, DECEMBER 31, 2016



The number of households who owned pet horses in each region are estimated by multiplying the percentage of pet horse owners on December 31, 2016, by the total number of households in each region at that time. The pet horse populations are estimated by multiplying the numbers of households in the region by the average number of horses per household in the region.

The West South Central region had among the highest number of horse-owning households (188,000) and the second highest average number of horses per household (2.4), making it the region with the highest horse population (452,000). New England had the lowest number of pet horse-owning households (21,000), the lowest average number of horses per household (1.3) and thus the lowest estimated pet horse population (27,000) (S1_TAB 34).

S1_TAB 34. PERCENT AND NUMBER OF HOUSEHOLDS WHO OWNED HORSES, AVERAGE NUMBER OF PET HORSES PER HOUSEHOLD AND TOTAL HORSE POPULATION IN THE UNITED STATES AND BY REGION ON DECEMBER 31, 2016

	Number of Households (1,000s)	Percent of Households with Pet Horses	Number of Horse-Owning Households (1,000s)	Average Number of Horses per Household	Horse Population (1,000s)
United States	125,819	0.7%	893	2.1	1,914
New England	5,967	0.3%	21	1.3	27
Middle Atlantic	16,379	0.3%	48	2	98
East North Central	18,950	0.6%	110	2.1	233
West North Central	8,505	0.7%	56	2	115
South Atlantic	25,325	0.7%	165	1.8	300
East South Central	7,747	0.9%	71	2.7	189
West South Central	14,750	1.3%	188	2.4	452
Mountain	9,100	1.1%	100	2.4	240
Pacific	18,361	0.8%	151	2.1	317

**U.S. Census Bureau: 2016 Current Population Survey*

The average number of horses per household was 2.1 in 2016, down 22.2% from 2011 (S1_TAB 35). In 2016, nearly half (46.1%) of horse-owning households owned one horse, down 3.8% from 2011. While those having two horses increased (23.9%) from 2011, those owning three horses increased to 12.1% and households with four or more horses (13.3%) decreased, resulting in fewer horses per horse-owning household.

The 2016 survey also found a relatively low 25% of pet horse-owning households having three or more horses on December 31. A decade earlier, more than 40% appeared to own three or more “pet” horses. Either previous surveys erroneously included more owners of horses used for profit (race horses, etc.) or pet-horse owners in fact own fewer horses than in the past.

S1_TAB 35. PERCENTAGE OF HOUSEHOLDS WHO OWNED HORSES BY NUMBER OWNED, AND AVERAGE NUMBER OF HORSES, DECEMBER 31, 1987–2016

	1987	1991	1996	2001	2006	2011	2016
Number of Horses Owned	%	%	%	%	%	%	%
One	44.3%	48.3%	39.6%	38.9%	35.3%	47.9%	46.1%
Two	27.2%	23.3%	26.6%	24.9%	24.4%	23.0%	28.5%
Three	10.7%	11.2%	11.4%	11.7%	14.5%	10.7%	12.1%
Four or More	17.8%	17.3%	22.5%	24.5%	25.8%	18.4%	13.3%
Horses per Household	2.6	2.5	2.7	2.9	3.5	2.7	2.1

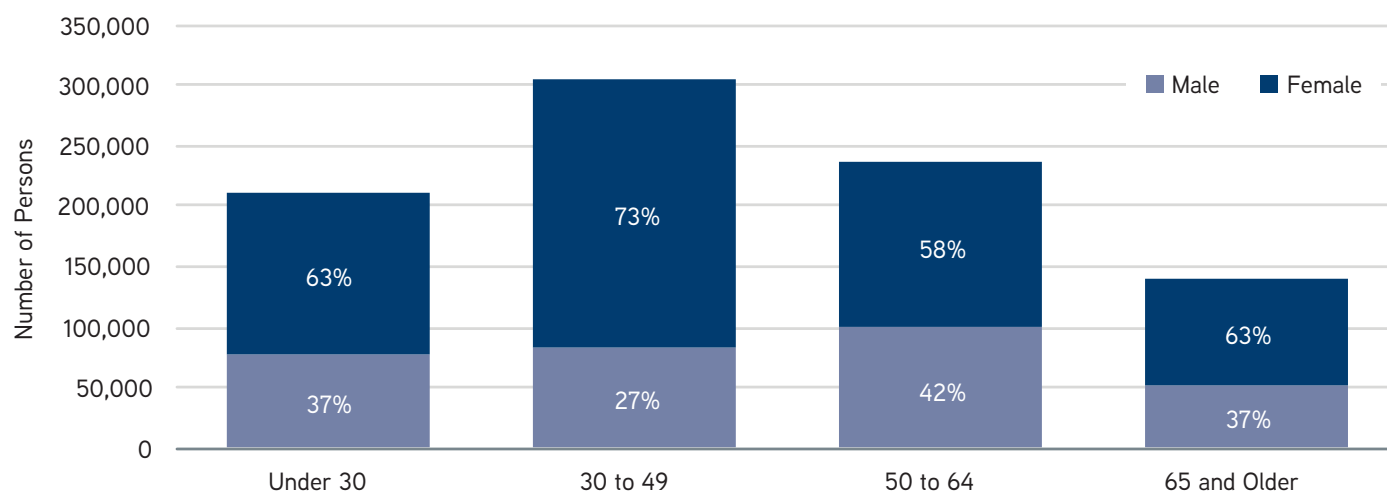
S1_TAB 36. TRENDS IN PET HORSE OWNERSHIP BY REGION, DECEMBER 31, 2001–2016

	2001		2006		2011		2016	
	% of HHs	Horse Pop. (1,000s)	% of HHs	Horse Pop. (1,000s)	% of HHs	Horse Pop. (1,000s)	% of HHs	Horse Pop. (1,000s)
United States	1.7%	5,107	1.8%	7,295	1.5%	4,856	0.7%	1,914
New England	1.1%	119	1.0%	152	1.0%	99	0.3%	27
Middle Atlantic	0.8%	322	0.9%	277	0.9%	400	0.3%	98
East North Central	1.3%	695	1.4%	771	1.1%	571	0.6%	233
West North Central	2.9%	630	2.6%	745	1.8%	535	0.7%	115
South Atlantic	1.2%	695	1.3%	1,055	1.3%	653	0.7%	300
East South Central	1.9%	289	2.8%	736	2.2%	387	0.9%	189
West South Central	2.1%	720	2.6%	1,186	2.3%	875	1.3%	452
Mountain	3.1%	749	3.2%	990	2.1%	446	1.1%	240
Pacific	2.1%	888	2.1%	1,412	1.5%	857	0.8%	317

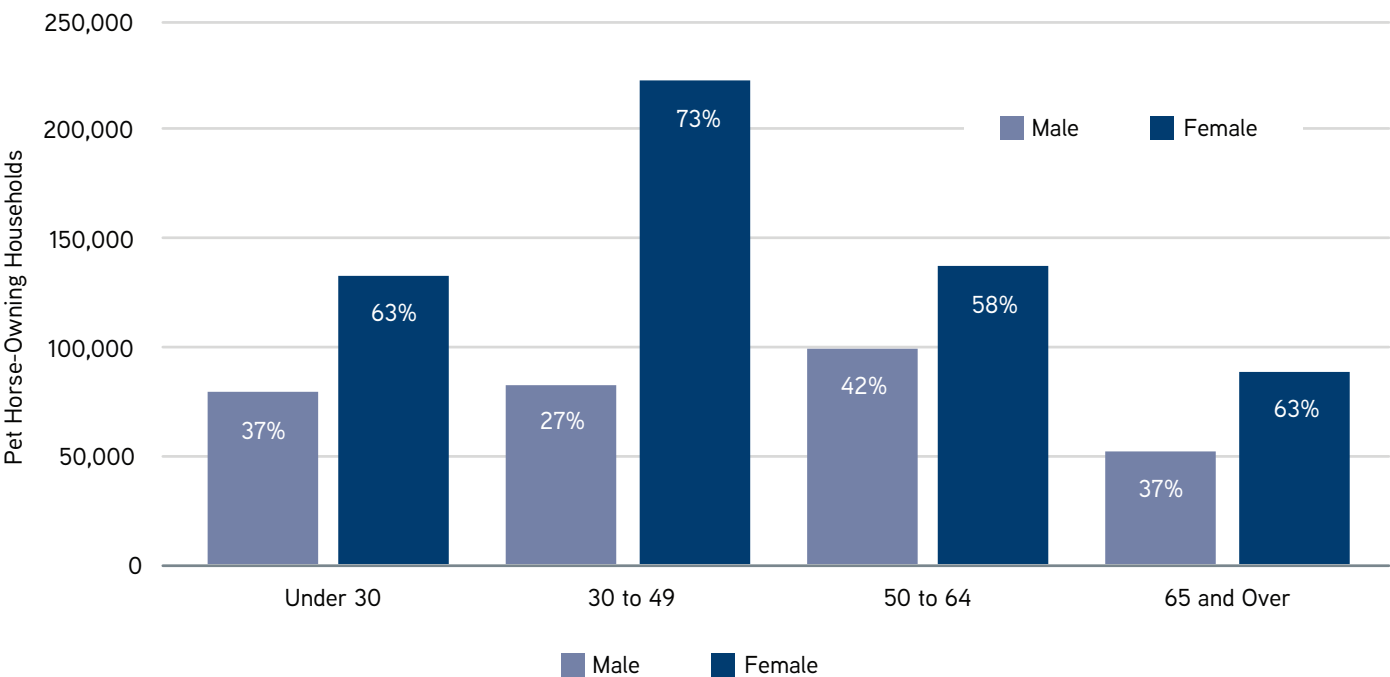
The rates and numbers of horse-owning households as well as the pet horse population appears to be the lowest ever estimated, in all regions (S1_TAB 36).

Overall, women continue to be primarily responsible for horse care (65%). This is lower than the 84% rate documented in the 2012 PDS, possibly because the 2017 PDS sample is explicitly free from gender bias. Pet horses are most popular among young people. The number of horses owned per year in an age category is highest among persons ages 30–49 (S1_FIG 36). The share of men responsible for pet horses (42%) is highest among owners in the 50–64-year-old category, and lowest (27%) among those aged 30–49.

S1_FIG 36. AGE AND GENDER OF PERSON RESPONSIBLE FOR HORSE CARE, 2016

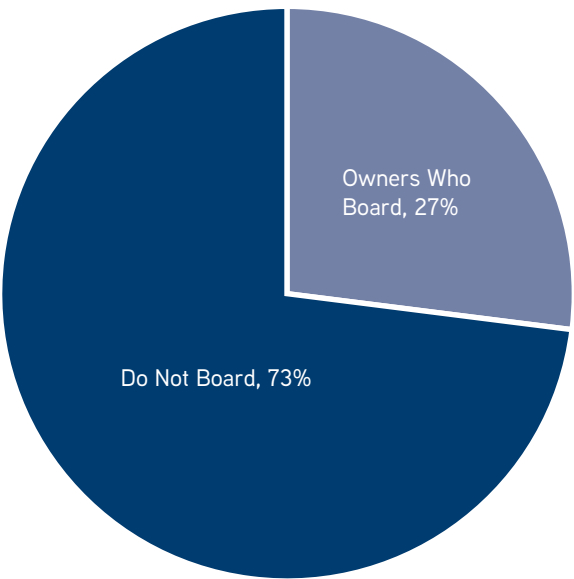


S1_FIG 37. AGE AND GENDER OF PERSON RESPONSIBLE FOR PET HORSE CARE, 2016

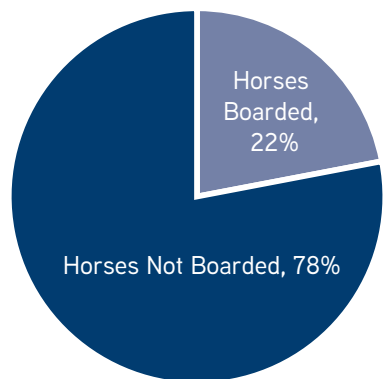


For the first time, the 2017 PDS asked horse owners if they boarded their horses. More than a quarter (27%) replied that they did board their horses (S1_FIG 38).

S1_FIG 38. PERCENT OF PET HORSE OWNERS WHO BOARDED AT LEAST ONE HORSE IN 2016



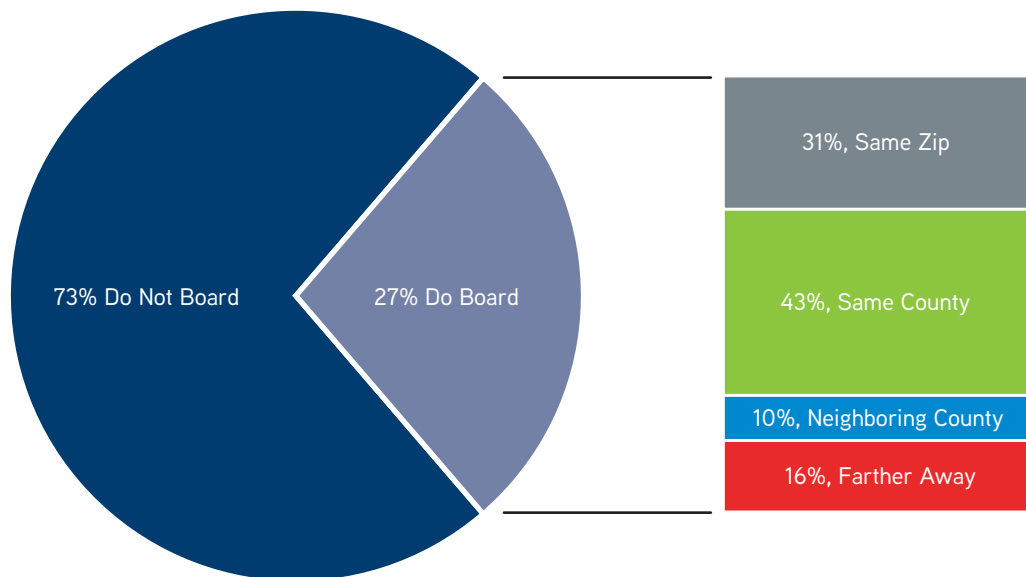
S1_FIG 39. PERCENT OF PET HORSES THAT WERE BOARDED IN 2016



Also for the first time, the 2017 PDS asked how much was spent in total to board horses in 2016. The average spent on boarding one or more horses was \$3,384 for the year, which was an average of \$2,240 per horse boarded per owner. Note that these averages do not control for the numbers of months each horse was boarded. They are at best a rough estimate of the nationwide average annual boarding expenditure per horse/per owner.

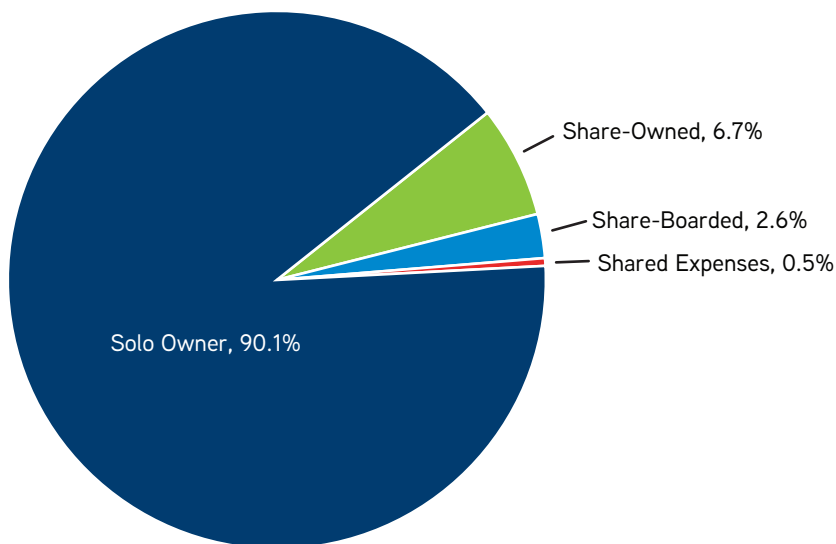
Finally, respondents also reported where they boarded their horse(s). Nearly a third (31%) of those who boarded horses reported they were boarded in the same ZIP code area in which they lived (S1_FIG 40); 43% said they were boarded in the same county (not the same ZIP area); 10% in a neighboring county; and the remaining 16% boarded farther away, not in a neighboring county.

S1_FIG 40. WHERE OWNERS BOARD THEIR HORSES, 2016



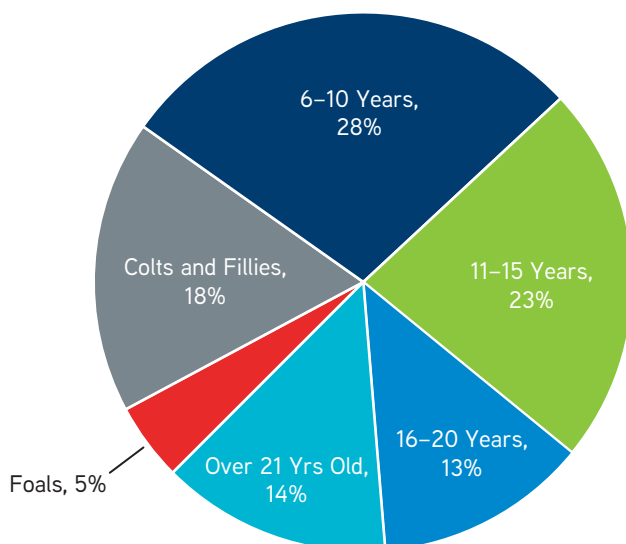
Also for the first time, the 2017 PDS asked respondents about cost-sharing their horses with others who have riding privileges. About 90% of pet horses today are owned solely by one household (S1_FIG 41). But 10% of horse owners said they cost-shared in one of the three following ways: 6.7% of the horses owned on December 31, 2016 were share-owned, under 3% (2.6%) were share-boarded and less than 1% (0.5%) of horses were expense-shared with other persons who also have riding privileges.

S1_FIG 41. PERCENT OF PET HORSES SHARE-OWNED, SHARE-BOARDED OR EXPENSE-SHARED, DECEMBER 31, 2016



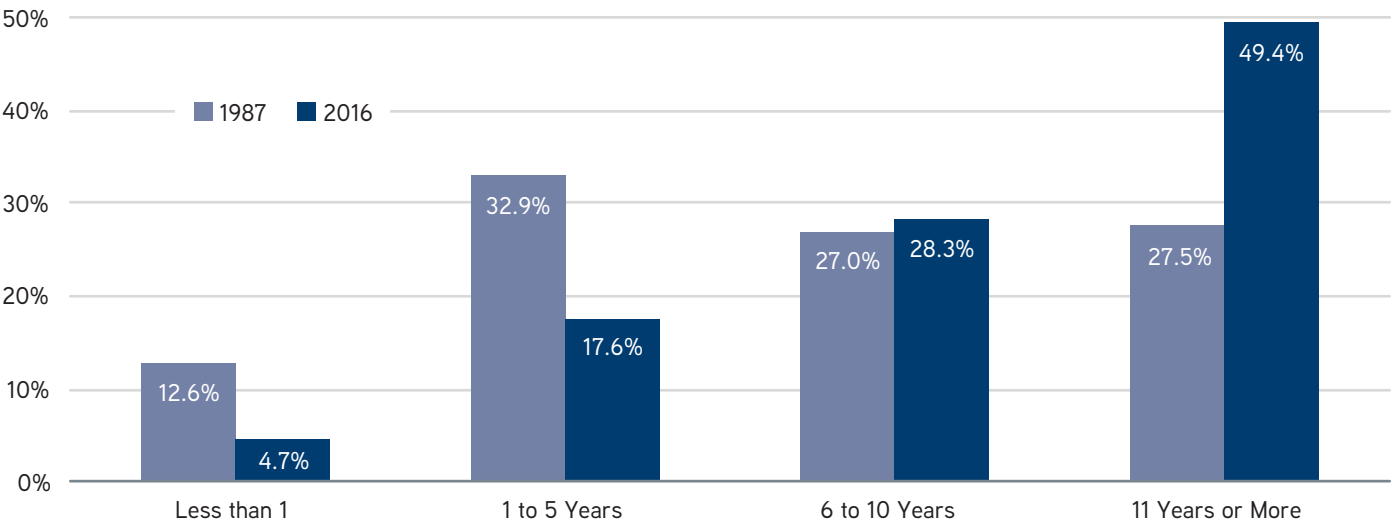
At year-end 2016, 5% of the pet horses were foals less than one year old (S1_FIG 42). Another 18% were one-to-five-year-old colts or fillies, 28% were six to 10 years old, 23% were 11 to 15 years old, 13% were 16 to 20 years old and 14% were 21 or older.

S1_FIG 42. PERCENTAGES OF PET HORSES BY AGE, DECEMBER 31, 2016



This illustrates the evolution in pet horse demographics (mix by age) from largely foals, colts and fillies to a greater proportion of mature horses. In 1987, 46% of pet horses were under six years old (S1_FIG 43, S1_TAB 37). In 2016, 22% of pet horses were under six. Also, in 1987 about 28% were 11 years or older, while in 2016 the share of over-11-year-olds was 49%.

S1_FIG 43. HORSES BY AGE, DECEMBER 31, 1987 & 2016



(Note: Prior to 1996, the Ranges were "1 Year or Less" and "2 to 5 Years")

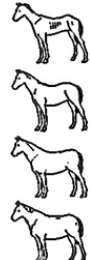
S1_TAB 37. PERCENT OF HORSES BY AGE, DECEMBER 31, 1987–2016

	1987	1991	1996	2001	2006	2011	2016
Age of Horse	%	%	%	%	%	%	%
1 Year or Less	12.6%*	8.6%*	12.2%	12.7%	8.6%	2.9%	4.7%
2 to 5 Years	32.9%*	26.5%*	29%	30.1%	27.8%	27.5%	17.6%
6 to 10 Years	27.0%	30.2%	26.9%	25.1%	29.7%	27.3%	28.3%
11 Years or More	27.5%	34.7%	31.0%	32.1%	33.9%	42.3%	49.4%

*Prior to 1996, the Ranges Were "1 Year or Less" and "2 to 5 Years"

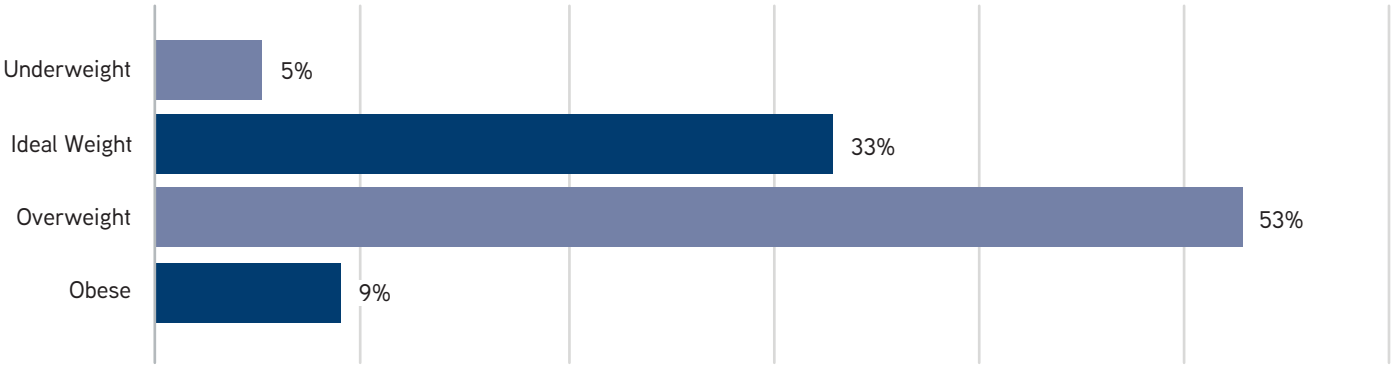
2017 PDS Respondents were shown four pet horse body condition images and asked to report how many of their pet horses had the illustrated body weights (S1_TAB 38). This is the first time that pet-horse owners were asked to evaluate their horse's body condition by matching images. Almost two-thirds (62%) of pet horses owned at year-end 2016 appeared to their owners to be overweight or obese, which is about 1.2 million pet horses (1 million appearing overweight and 0.17 million appearing obese).

S1_TAB 38. APPARENT BODY CONDITION OF PET HORSES OWNED, DECEMBER 31, 2016

	Body Condition		Percent of Horses	Number of Pet Horses
	Under 16% Body Fat	Underweight	5%	99,837
	16–25% Body Fat	Ideal Weight	33%	631,184
	26–35% Body Fat	Overweight	53%	1,013,417
	36% or More Body Fat	Obese	9%	169,955

One-third (33%) of all pet horses at year-end 2016 were considered by their owners to be ideal weight; 53% of the pet horses appeared to be overweight, 9% reportedly appeared obese and 5% were reported to appear underweight (S1_TAB 38, S1_FIG 44).

S1_FIG 44. APPARENT BODY CONDITION OF PET HORSES OWNED DECEMBER 31, 2016



The 2017 PDS also asked for the first time about the main role of each pet horse in the household. Half (50%) of pet horses owned on December 31, 2016, were for pleasure or riding (S1_TAB 39). Another quarter (24%) were retired, or “pets;” 14% were primarily for show or performance; and 8% for work, such as a draft horse on a farm. A small share (4%), which is nonetheless 71,000 pet horses, were mainly for breeding; and the smallest portion (0.5%) were for service, such as therapy horses.

The 2017 PDS was explicitly designed to avoid surveying people who owned horses primarily for profit, such as breeders. And of course, the main role of a horse can change over time. For example, a pet horse originally owned mainly for riding might become a breeder. Nevertheless, it is noteworthy that the main role of 4% of the horses is “breeding.” That rate is four times larger than the share of dogs (1%) reported to be either pups for sale or dogs for breeding.

S1_TAB 39. MAIN ROLE IN THE HOUSEHOLD OF PET HORSES OWNED, DECEMBER, 31, 2016

	Pleasure; Riding	Retired or Pet	Show or Performance	Work (e.g., Draft)	Breeding	Service (e.g., Therapy)
Percent	50%	24%	14%	8%	4%	0.50%
Number	954,012	460,094	274,689	144,901	71,633	9,066

S1_TAB 40. HOW HOUSEHOLDS VIEWED THEIR HORSES BY AGE OF RESPONDENT, 2016

	We Consider Our Horse(s) to Be:		
	Family Member	Companion	Property Under Our Care
Age	%	%	%
All	47%	42%	11%
Under 30	52%	30%	18%
30–49	48%	46%	6%
50–64	41%	40%	19%
65 or Older	51%	40%	9%

Given that 75% of pet horses are mainly for pleasure/riding, retired/pets or therapy, it is not surprising that 89% of owners consider their horses to be “companions” or “members of the family” (S1_TAB 40).

Respondents to the 2017 PDS were also asked for the first time to report how many of their pet horses were covered by health insurance and by loss of use or mortality insurance on December 31, 2016. From these data the shares and numbers of pet horse-owning households who have purchased health insurance and loss insurance are estimated (S1_TAB 41).

S1_TAB 41. HOUSEHOLDS WITH PET HEALTH INSURANCE, WELLNESS PLANS OR BOTH, PERCENTAGES AND NUMBERS OF PET HORSES COVERED, DECEMBER 31, 2016

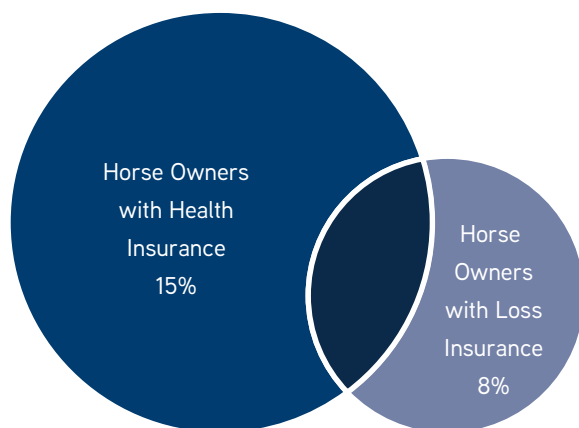
	Percent of Horse-Owning Households	Number of Households	Percent of Pet Horses	Number of Pet Horses
Health Insurance	15%	134,995	9%	181,861
Loss of Use or Mortality Insurance	8%	72,922	6%	113,150
Both	7%	66,572		

At year-end 2016, 15%, or more than 135,000 horse-owning households, reported having at least one horse covered by health insurance. Households do not necessarily purchase health insurance for all the horses they own. A lower percentage (9%) of pet horses, which is about 182,000 horses, were covered by health insurance (S1_TAB 41).

The shares and numbers of pet horse-owning households and horses covered by loss of use or mortality insurance is similarly estimated to be 8% of horse-owning households, and 6% of pet horses. That is more than 113,000 horses in about 73,000 households (S1_TAB 41).

Finally, although we did not ask how many of the pet horses owned on December 31, 2016, were covered by both health insurance and loss of use or mortality insurance, the data do reveal the households who had both (S1_FIG 45). More than 7%, or over 66,000 horse-owning households, had both (S1_TAB 41). This count includes households with more than one pet horse that have at least one covered only by loss insurance and another covered only by health insurance, as well as households with one or more pet horses covered by both.

S1_FIG 45. PERCENTAGES OF PET HORSE-OWNING HOUSEHOLDS WHO HAD PET HORSES COVERED BY PET HEALTH INSURANCE, LOSS INSURANCE OR BOTH, DECEMBER 31, 2016

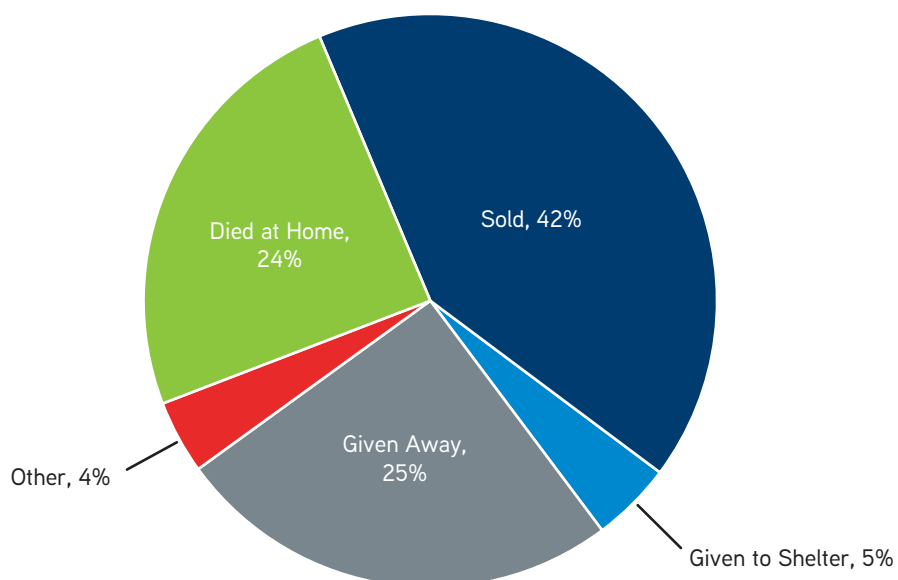


Furthermore, 9%, or about 179,000 pet horses, had a registered ID microchip or tattoo.

The difference between the number of pet horses owned any time and the number owned on December 31, 2016, indicates the number of pet horses that died, were sold or given away, or that left the household some other way during the year. Of the 2.1 million pet horses owned at any time during 2016, 200,000 (94%) were no longer with those owners at year-end.

The majority (42%) were sold (S1_FIG46). One-quarter (25%) were given away. Another quarter (24%) died at home. Under 5% were given to shelters, and 4% left the household some other way—such as “ran away.”

S1_FIG 46. DESTINATIONS OF PET HORSES THAT LEFT THEIR OWNERS IN 2016



Twenty percent of the horse-owning respondents to the 2017 PDS had fewer horses on December 31 than they had sometime during 2016. They said “goodbye” to 200,000 horses. At least 24% of that 200,000 passed away (S1_FIG 46). Thus about 50,000 pet horses simply changed hands. Unfortunately, there is no way to know how many of the 150,000 that were sold or given away were counted—in someone else’s household—on December 31, 2016.

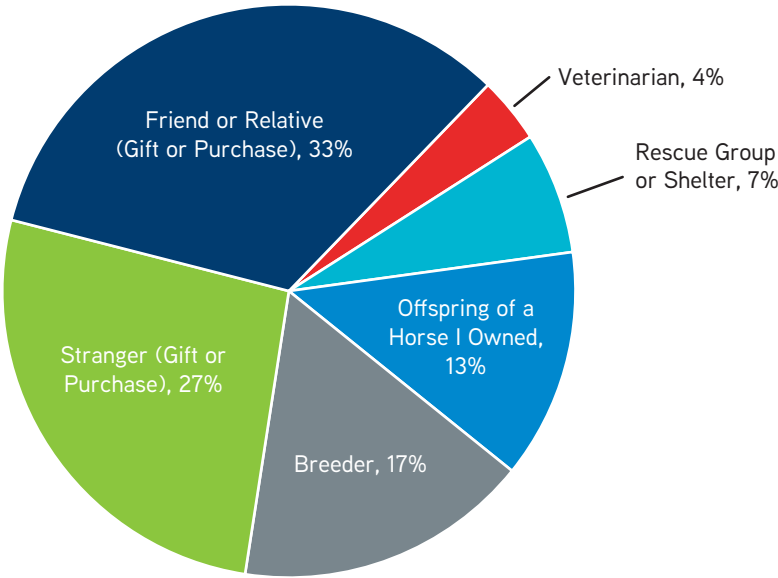
Looking to the near future, it is noteworthy that only 7 percent of horse-owning households said, “Yes”, they plan to acquire any new horses in 2017 (S1_TAB 42). The vast majority (77%) said they did not plan to acquire another pet horse, while 16% were unsure. The data show that fewer households owned fewer horses in 2016, especially on December 31, and few horse owners plan to acquire new horses. These data suggest that the pet horse ownership rate is, in fact, lower than five years ago, and that 2016 was on trend/ not a trough in a pet horse cycle from which the pet horse population can be expected to rise in the near future.

S1_TAB 42. PERCENT AND NUMBER PLANNING TO ACQUIRE ANOTHER HORSE IN 2017

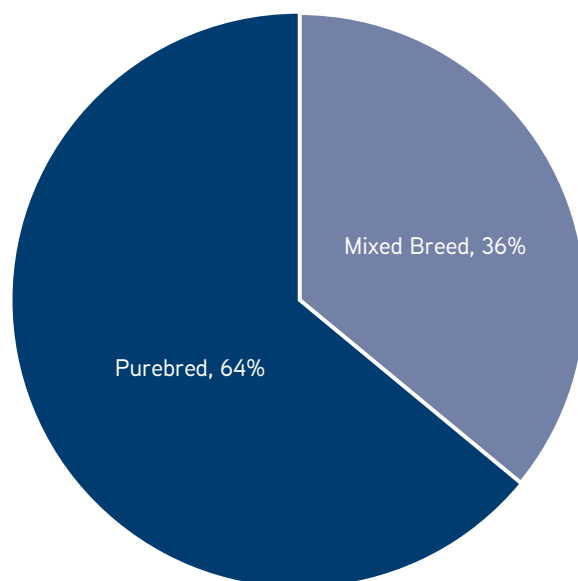
	Yes	No	Don't Know
Percent of Horse-Ownning Households	7%	77%	16%
Number of Households	66,602	772,265	161,009

Respondents to the 2017 PDS were asked where they obtained their most recently acquired horse—Friends or relatives—gift or purchase—were the sources of the largest share (33%) of pet horses (S1_FIG 47). Purchases or gifts from strangers were the source of the next largest portion (27%), followed by breeders (17%); 13% were offspring of a horse respondents already owned; 7% were acquired from rescue groups or shelters; and 4% were purchased from veterinarians.

S1_FIG 47. ACTUAL SOURCE OF MOST RECENTLY ACQUIRED HORSE, 2016



S1_FIG 48. TYPE OF HORSE OWNED, DECEMBER 31, 2016



Almost two-thirds of the pet horses owned on December 31, 2016, were reported by their owners to be purebred (S1_FIG 48).





chapter 7:

SPECIALTY AND EXOTIC PET OWNERSHIP

Specialty and exotic pets are fish, ferrets, rabbits, hamsters, guinea pigs, gerbils, other rodents, turtles, snakes, lizards, other reptiles, other birds (pigeons and poultry), livestock and all other types of specialty and exotic animals that are kept as pets.

Specialty pets were owned by 13% of households in 2016, an increase of 26% from 2011.

Pet fish were owned by 8% of households in 2016, an increase of 2% since 2011 (S1_TAB 43). The average number of fish per household who owned fish was about seven. The 2016 pet fish population was 76 million (S1_TAB 44).

In 2016, rabbits were owned by 1.2% of households, the same as 2011. The average number of rabbits owned per household was 1.5. The 2016 pet rabbit population was 2.2 million.

Reptiles were owned by 3% of households in 2016, up 17% over the past five years. The average number of reptiles per household was 1.6, for a pet reptile population of about 6 million at year-end 2016.

Ferrets were owned by 0.3% of households in 2016, at the same rate as in 2006. The mean number of ferrets per household was 1.5 and the population was 0.5 million in 2016.

Poultry were owned as pets by 1.1% of households in 2016, up 23% in the past five years. The average number of poultry per household was 11. The poultry population was 15.4 million in 2016.

Detailed information on specialty pets, including percentage of owners, number of households, mean number of pets per household, population and trend information is presented in S1_TAB44 and S1_TAB45.

S1_TAB 43. PERCENT OF HOUSEHOLDS WHO OWNED SPECIALTY AND EXOTIC PETS BY TYPE OF PET, AND AVERAGE PER OWNING-HOUSEHOLD, DECEMBER 31, 1996–2016

	1996	2001	2006	2011	2016
Specialty/Exotic Pets (Net %)	*	*	12.7	10.6	13.3
Fish (% of Households Who Own)	6.3	6.1	7.8	6.5	8.3
Average Number of Fish per HH	8.9	7.7	8.4	7.5	7.3
Rabbits (% of Households Who Own)	1.9	1.7	1.6	1.2	1.2
Average Number of Rabbits per HH	2.6	2.7	3.3	2.3	1.5
Reptiles (% of Households Who Own)	*	*	*	*	2.9
Average Number of Reptiles per HH	*	*	*	*	1.6
Pet Poultry (% of Households Who Own)	*	*	*	*	1.1
Average Number of Poultry per HH	*	*	*	*	11
Other Mammals (% of Households Who Own)	*	*	*	*	1.6
Average Number of Other Mammals per HH	*	*	*	*	1.8

**Not available*

S1_TAB 44. PERCENT AND NUMBER OF HOUSEHOLDS, AVERAGE NUMBER PER HOUSEHOLD AND TOTAL PET POPULATION BY TYPE OF SPECIALTY AND EXOTIC PET, DECEMBER 31, 2016

	Percent of Households Who Own	Number of Households (1,000s)*	Average Number per Household	Pet Population (1,000s)
Fish	8.3%	10,475	7.3	76,323
Ferrets	0.3%	326	1.5	501
Rabbits	1.2%	1,534	1.5	2,244
Reptiles	2.9%	3,669	1.6	6,032
Pet Livestock	0.4%	494	3.6	1,786
Pet Poultry	1.1%	1,397	11	15,367
Other Mammals	1.6%	1,978	1.8	3,521
All Others	0.3%	322	3	961

** U.S. Census Bureau: 2016 Current Population Survey*

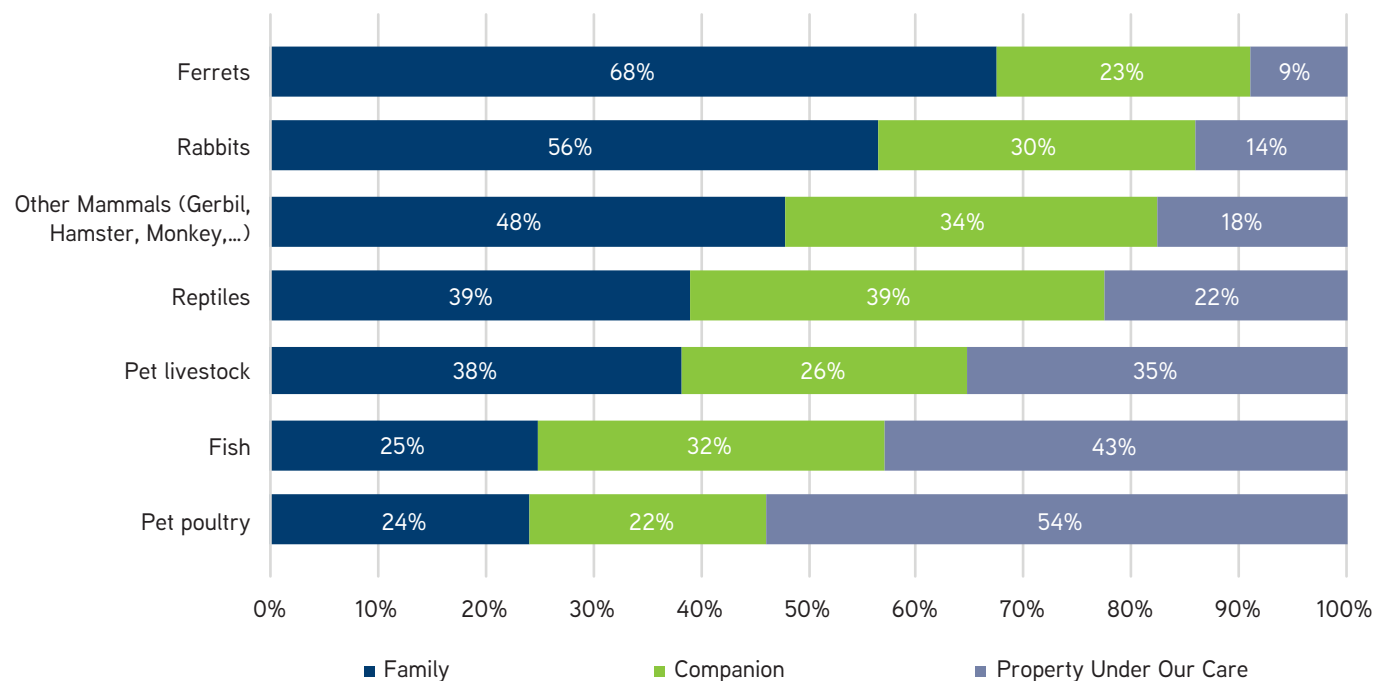
S1_TAB 45. TRENDS IN SPECIALTY AND EXOTIC PET OWNERSHIP, DECEMBER 31, 2001–2016

	2001		2006		2011		2016	
	% of HHs	Pet Pop. (1,000s)	% of HHs	Pet Pop. (1,000s)	% of HHs	Pet Pop. (1,000s)	% of HHs	Pet Pop. (1,000s)
Fish	6.1%	49,251	7.8%	75,898	6.5%	57,750	8.3%	76,323
Ferrets	0.5%	991	0.4%	1,060	0.3%	748	0.3%	501
Rabbits	1.7%	4,813	1.6%	6,171	1.2%	3,210	1.2%	2,244
Reptiles	1.6%	2,874	2.0%	3,854	2.5%	5,298	2.9%	6,032
Pet Livestock	0.4%	2,936	0.6%	10,995	0.6%	5,045	0.4%	1,786
Pet Poultry	0.3%	2,894	0.4%	4,966	0.9%	12,591	1.1%	15,367
Other Mammals	1.7%	2,615	1.8%	3,623	1.9%	3,844	1.6%	3,521
All Others	0.8%	2,013	1.0%	3,664	0.2%	898	0.3%	961

Prior to 2011 Poultry was Classified as "Other Birds."

Ferrets and rabbits might be declining in popularity as pets, but they are more likely to be considered “member of the family” than the other specialty or exotic pets (S1_FIG 49). More than two-thirds (68%) of pet ferret owners and more than half (56%) of rabbit owners consider them part of the family. Almost half (48%) of other mammal owners (hamsters, gerbils, etc.) and more than a third of pet reptile owners claim their pets are part of the family, too. In contrast, a majority (54%) of pet poultry owners consider their poultry to be “property under their care.”

S1_FIG 49. HOW SPECIALTY AND EXOTIC PET OWNERS VIEW THEIR PETS



Even specialty and exotic pets can be covered by pet health insurance and/or wellness plans. The relative coverage rates correspond to the relative likelihood of being considered a family member. Almost 10% of ferrets and about 6% of pet rabbits are covered by pet health insurance (S1_TAB 46). In both cases, slightly more are covered by wellness plans. Pet poultry are the least likely to be covered by either.

S1_TAB 46. PERCENT OF SPECIALTY AND EXOTIC PETS COVERED BY PET HEALTH INSURANCE OR WELLNESS PLAN

	% Covered by Pet Health Insurance	% Covered by Wellness Plan
Ferrets	9.7%	10.2%
Rabbits	6.4%	6.6%
Other Mammals (Gerbil, Hamster, Monkey,...)	1.4%	2.9%
Reptiles	1.1%	1.7%
Fish	1.1%	0.7%
Pet Livestock	0.3%	0.9%
Pet Poultry	0.1%	0.1%

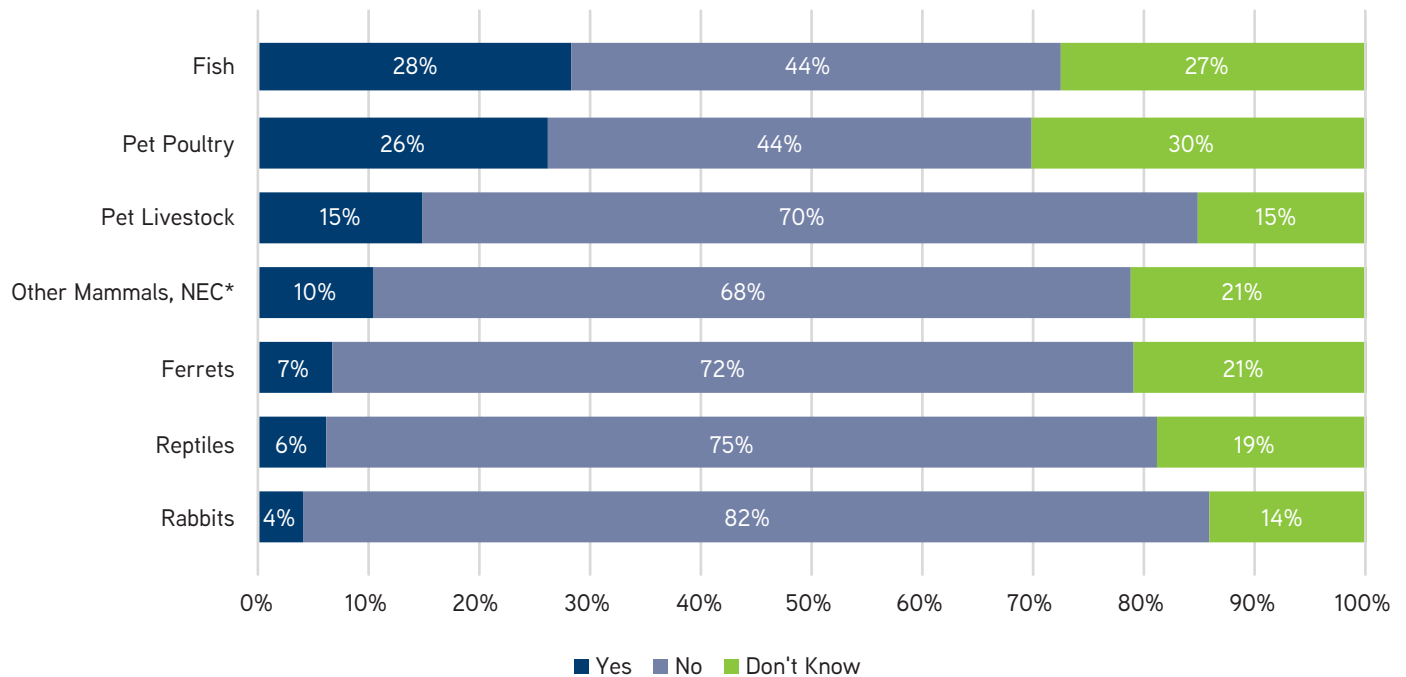
Specialty and exotic pet owners also identify and register their pets to some extent. And once again, the pets most likely to be considered family members are most likely to have registered identification. Almost 14% of pet ferrets and more than 7% of pet rabbits were reported to have registered identification at year-end 2016 (S1_TAB 47). An estimated 68,000 pet ferrets and 163,000 pet rabbits have registered IDs.

S1_TAB 47. PERCENT AND NUMBER OF SPECIALTY AND EXOTIC PETS WITH REGISTERED IDS

	Percent of Pets	Number of Pets
Ferrets	13.7%	68,000
Rabbits	7.3%	163,000
Reptiles	1.3%	76,000
Pet Livestock	1.1%	19,000
Other Mammals (Gerbil, Hamster, Monkey,...)	0.6%	22,000
Fish	0.3%	239,000
Pet Poultry	0.2%	28,000

Survey respondents who owned fish, ferrets, rabbits and any other specialty or exotic pet were also asked, “Do you plan to acquire any new _____ in the coming year?” Fish-owning households more often than other types of exotic-pet owners replied “yes” (28%), followed by pet-poultry owners (26%) (S1_FIG 50). In contrast, three-quarters of the owners of pet ferrets (72%) and pet reptiles (75%) replied that, “No” they did not plan to acquire a new ferret or reptile. Pet-rabbit owners were least likely to add rabbits. Only 4% of the households who owned pet rabbits planned to acquire more rabbits in 2017. Because the typical lifespan of a pet rabbit is similar to the lifespan of some dog breeds, or about seven to 12 years, it’s reasonable to contrast this percent with the percent of dog owners who plan to acquire a new dog, which was more than 8%.

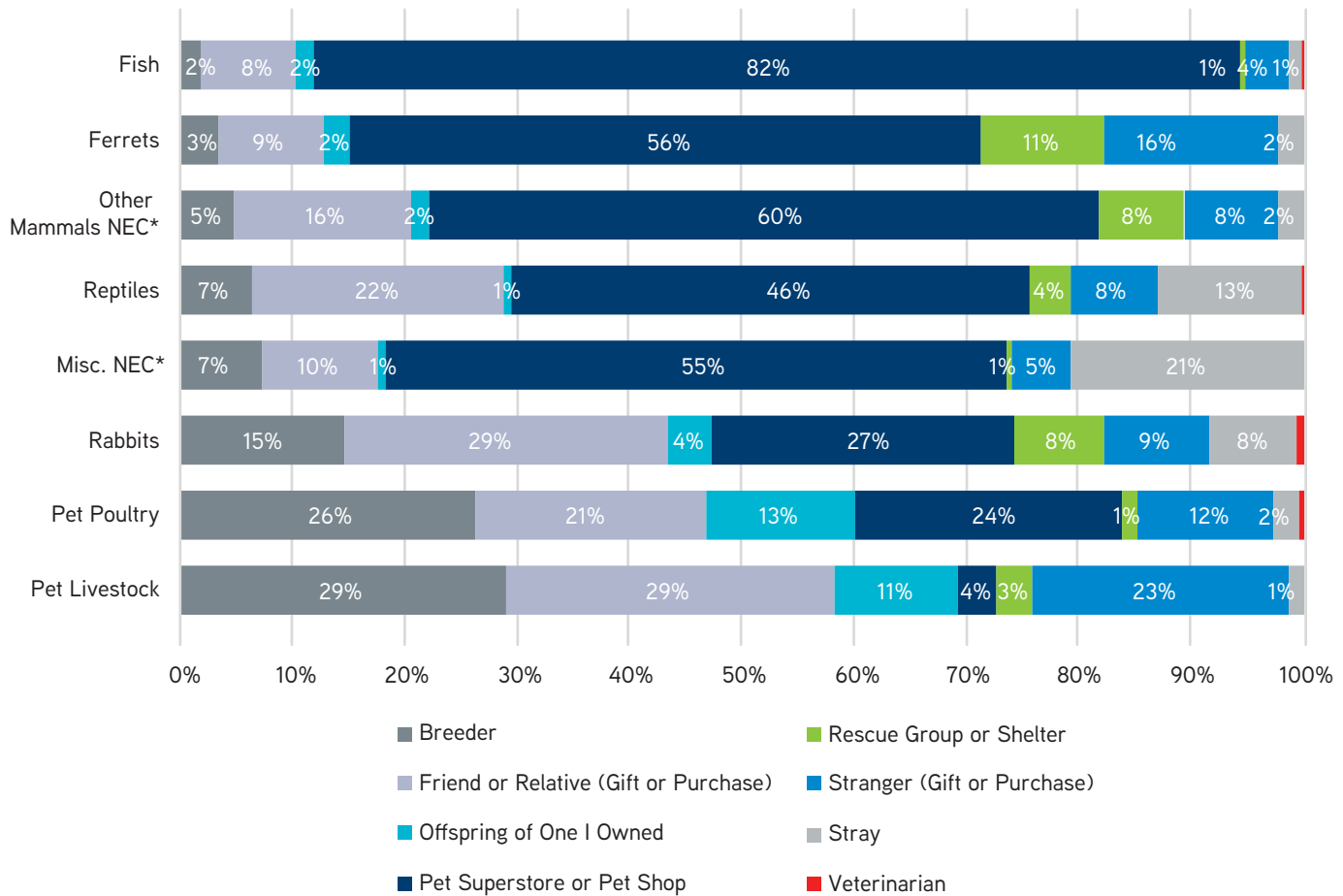
S1_FIG 50. PERCENT OF SPECIALTY OR EXOTIC PET-OWNING HOUSEHOLDS PLANNING TO ADD PETS OR NOT IN 2017



Pet superstores or pet shops are the most likely sources of most specialty or exotic pets (S1_FIG 51, S1_TAB48): 82% of pet fish, 60% of other mammals—such as hamsters, gerbils, pet monkeys, guinea pigs, mice, etc.) were acquired from pet stores or superstores. Friends or relatives (gift or purchase) are likely sources of pet livestock such as pigs, sheep or goats (29%), pet poultry such as pigeons, chickens, ducks or geese (21%), and rabbits (29%). Breeders are also important sources of pet livestock (29%) and pet poultry (26%).

The most common miscellaneous pets are frogs, toads, crabs and spiders, so one can understand why one-fifth of these might simply have been found in nature. The second largest source of other miscellaneous pets is “strays,” and 55 percent of these are sourced at pet stores and superstores (S1_FIG 51).

S1_FIG 51. SOURCES OF SPECIALTY AND EXOTIC PETS



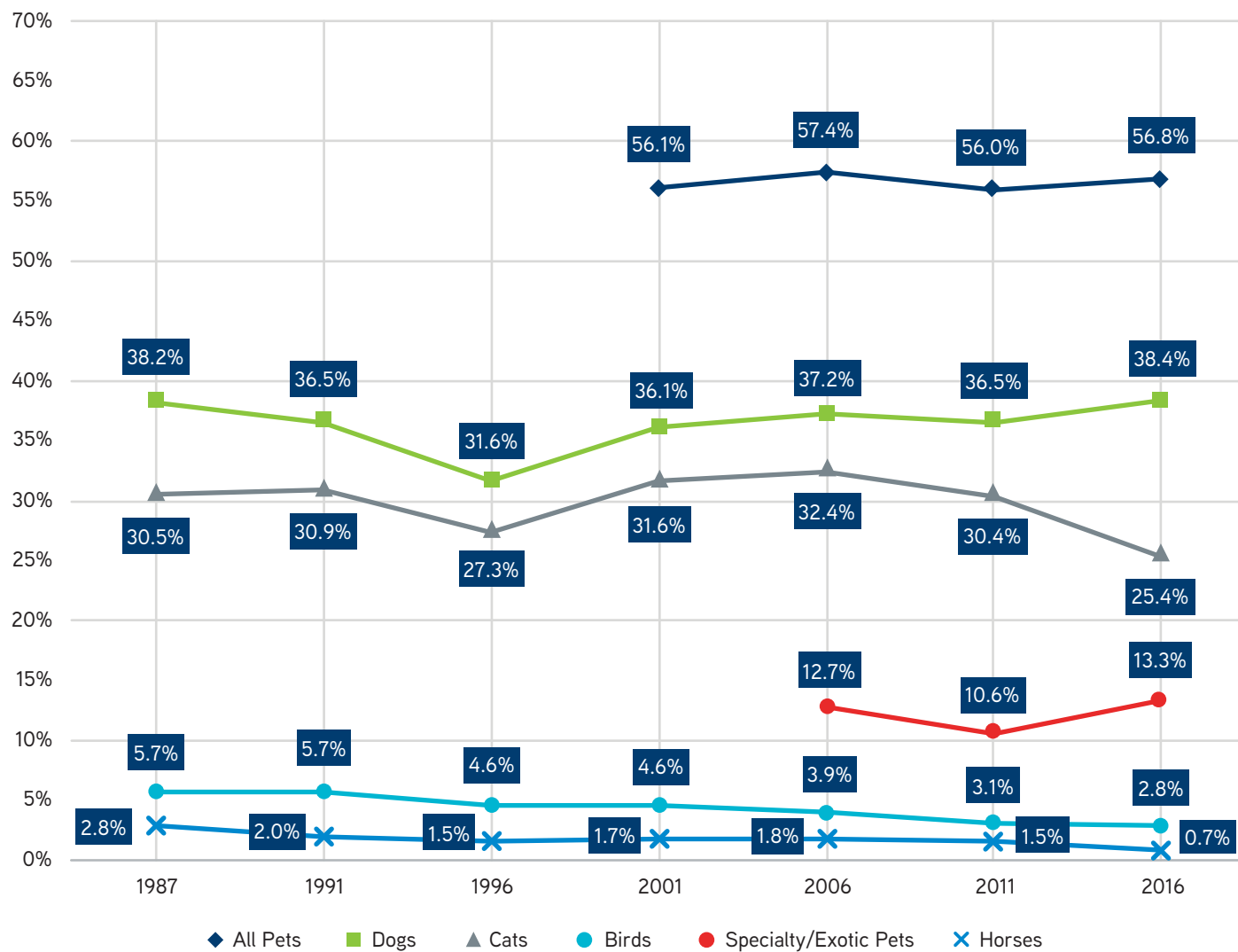
S1_TAB 48. ACTUAL SOURCE OF MOST RECENTLY ACQUIRED SPECIAL OR EXOTIC PET

	Breeder	Friend or Relative (Gift or Purchase)	Offspring of One I Owned	Pet Superstore or Pet Shop	Rescue Group or Shelter	Stranger (Gift or Purchase)	Stray	Veterinarian
Fish	2%	8%	2%	82%	1%	4%	1%	0.1%
Other Mammal	5%	16%	2%	60%	8%	8%	2%	0.0%
Ferrets	3%	9%	2%	56%	11%	16%	2%	0.0%
Misc. NEC*	7%	10%	1%	55%	1%	5%	21%	0.0%
Reptiles	7%	22%	1%	46%	4%	8%	13%	0.1%
Rabbits	15%	29%	4%	27%	8%	9%	8%	0.5%
Pet Poultry	26%	21%	13%	24%	1%	12%	2%	0.3%
Pet Livestock	29%	29%	11%	4%	3%	23%	1%	0.0%

*NEC ~ Not Elsewhere Classified

TOTAL PET OWNERSHIP AND PET POPULATION: SUMMARY TABLES

S1_FIG 52. PERCENT OF HOUSEHOLDS OWNING PETS IN THE UNITED STATES, DECEMBER 31, 1987–2016



S1_TAB 49. PERCENT OF HOUSEHOLDS OWNING PETS IN THE UNITED STATES, DECEMBER 31, 1987–2016

	1987	1991	1996	2001	2006	2011	2016
All Pets	*	*	*	56.1%	57.4%	56.0%	56.8%
Dogs	38.2%	36.5%	31.6%	36.1%	37.2%	36.5%	38.4%
Cats	30.5%	30.9%	27.3%	31.6%	32.4%	30.4%	25.4%
Birds	5.7%	5.7%	4.6%	4.6%	3.9%	3.1%	2.8%
Horses	2.8%	2.0%	1.5%	1.7%	1.8%	1.5%	0.7%
Specialty/ Exotic Pets	*	*	*	*	12.7%	10.6%	13.3%

*Not available



section 2

PET HEALTH, VETERINARY CARE USE AND EXPENDITURES





SECTION 2 OVERVIEW: PET HEALTH, VETERINARY CARE USE AND EXPENDITURES

What health problems do pets have? What pet health problems do pet owners need help with? Are pet owners seeking care for their pets from new and different providers? These are the three new questions answered in this section of the 2017 PDS. In addition, this section provides the answers to “legacy questions” such as how often pet owners had their pets seen by a veterinarian, and how much they spent on veterinary care. The data in this section document the health issues faced by dog, cat and horse owners in 2016. They document routine/preventive care needs and compliance rates, who provides sterilizations, and the reasons why pet owners have their pets seen by veterinary clinics and hospitals. They show that pet owners provide health care for their pets in new and different ways.

The fact that pet owners are the first providers of health care for their pets partly explains why so many pet-owning households still just don’t visit the veterinarian.

The owners of dogs are more likely to obtain veterinary care than the owners of cats, horses, birds or any other type of pet. More than three-quarters (83%) of all dog-owning households visited the veterinarian at least once in 2016. But as usual, just over half of all cat owners (54%) did.

And while more than half (56%) of all horse-owning households had their horses seen by a veterinarian, only 12% of bird owners did. These percentages have not changed much for two decades.

Veterinarians recommend annual routine/preventive care visits for all dogs, cats, birds and horses. Given the higher rates of vet visits in general, it is not surprising that the percentages of pet-owning households who comply with the annual routine care recommendations are highest among dog owners.

Almost four-fifths of all dog-owning households got routine care for their dogs in 2016. But we couldn’t know that just by counting canine routine care at veterinary clinics or hospitals. 21% of the routine/preventive care visits were to pet superstores, shelters and humane societies, mobile vans or publicly sponsored clinics.

Among cat-owning households, the routine/preventive care compliance rate is 48%. Again, this would not be measurable from veterinary service data alone. A sizeable share of cat owners (8%) who obtained routine care did not get it at a veterinary clinic or hospital: 17% of feline routine care visits were made to pet superstores, shelters, humane societies, mobile vans and publicly sponsored clinics. The new data in the 2017 PDS clarify the true rates of compliance with veterinary routine care recommendations because the care provided by all types of DVM-employing pet health care institutions is counted.

Interestingly, one-quarter (25%) of horse-owning households “could not recall” how many years ago they last had their horse(s) seen by a veterinarian. On the other hand, 100% of the owners whose horses were seen at least once by a veterinarian in 2016 got routine/preventive care for their horses.



- 83%** Dog-owning households visited a veterinary clinic or hospital in 2016
- 79%** Dog owners complied with routine/preventive care recommendations in 2016
- 21%** Dog owners obtained routine care from a pet health provider other than a veterinarian
- 33%** Canine neuters obtained at shelters, humane societies or public clinics



- 54%** Cat-owning households visited the veterinarian (46% did not)
- 48%** Of all cat owners got annual routine care for their cats somewhere
- 41%** Feline spays were obtained from shelters, humane societies or publicly sponsored clinics in 2016
- 32%** Feline spays obtained at no charge from a shelter/humane society
- 28%** Feline spays at a veterinary clinic or hospital provided for no charge



- 12%** Bird-owning households visited the veterinarian (88% did not)



- 56%** Horse-owning households had their horses seen by a veterinarian (44% did not)

In addition to veterinary clinics and hospitals, other types of DVM-employing institutions also provide a significant share of spays and neuters.

In 2016, one-third of the canine sterilizations, 41% of the feline spays and 45% of the feline neuters were obtained from shelters, humane societies or publicly sponsored clinics.

The public health benefits due to pet population control may rationalize the provision of spays and neuters at reduced prices or for no charge.

For example, no charge was paid for almost one-third of the feline spays obtained from shelters or humane societies. Even 28% of the feline spays obtained at a veterinary clinic or hospital were also provided at no charge.

Many pet-owning households don't visit the veterinarian because they provide the pet health care their pets need by themselves. Two-fifths (41%) of the cat owners who did not visit a veterinarian simply kept their cats healthy. As they said, their cats "did not get sick or injured." Another 5% did visit a vet because they administered vaccines to their cats by themselves/at home.

The 2017 PDS looked into this topic in more detail than ever before. The data show that more than half of all dog-owning households (26 million) reported a need to prevent or treat fleas/ticks and the diseases caused by them. But two-thirds of these potential veterinary clients did not visit a clinic or hospital about it: They prevented or treated the pests on their own. Only one-fifth relied mainly on veterinary care. Another 11% indicated they worked with a veterinarian to provide the care.

Another 18 million dog-owning households prevented or treated heartworm but 48% of them did so all by themselves/at home and only 39% relied on veterinary care.

More than two-thirds (70%) of the horse owners whose horses needed anthelmintics were provided "by the barn owner or ourselves." Only 16% relied on veterinary care for equine anthelmintics in 2016.

Many other health challenges continue to send dog, cat and horse owners to the veterinarian for treatment. The most widely suffered ailments, however, are those most often treated by the owners alone.

Hairballs plagued the largest number of cat-owning households in 2016. But 71% of the owners dealt with their cats' hairballs by themselves/at home. 16% relied on veterinary care for feline hairballs, while another 10% provided a mix of home and veterinary care for their cats with hairballs.

Ear infections plagued more than 5 million dog-owning households in 2016. One-fifth of those households took care of their dogs by themselves. More than half (55%) relied on veterinary care, and another 30% provided a mix of home care and veterinary care to cure their dogs' ear infections.

Also, a large share of both dogs (9%) and cats (5%) suffered from "diarrhea/vomiting/ate something bad" in 2016. More than half of the dog owners and almost half the cat owners relied on veterinary care to treat these issues.

26

Million dog-owning households prevented or treated fleas/ticks/diseases in 2016

67%

Prevented or treated their dogs' fleas/ticks "by themselves/at home" (only 21% relied on veterinary care)

18

Million dog-owning households prevented or treated heartworm in 2016

48%

Prevented or treated heartworm "by themselves/at home" (39% relied on veterinary care)



HAIRBALLS

Plagued more cat owners (1.6 million) than any other feline issue



EAR INFECTIONS

Plagued more dog owners (5 million) than any other canine issue



4.6 MILLION

Dogs had diarrhea/vomiting/ate something bad (and 55% relied on veterinary care to treat it)



1.5 MILLION

Cats suffered from diarrhea/vomiting/ate something bad (and 49% of their owners relied on veterinary care to treat it)

Meanwhile, the “legacy question” data show that on average, dog, cat, bird and horse owners continue to bring their pets to the veterinarian about as often as they always have. Visits to the veterinarian per pet per year have remained fairly stable for a decade or longer: 1.5 times per dog, 0.7 times per cat, 0.1 times per bird and 0.7 times per horse.

But veterinary practice owners should be pleased to see that the average dog-, cat-, bird- or horse-owning client, in fact, makes many more visits to the veterinarian than the global averages suggest.

Dog-owning veterinary clients made three visits and spent \$495 at the veterinarian in 2016. Cat-owning veterinary clients made 2.4 visits and spent \$335; bird-owning clients visited 2.6 times and spent \$348; and horse-owning clients were seen 2.8 times, and spent \$1,098 on veterinary care in 2016.

And most welcome of all, veterinary practice owners will appreciate hearing that 85%-90% of all veterinary client pet owners have a “regular” veterinarian who they choose to patronize mainly because of the “knowledgeable, high quality care” they provide, as well as the fact that they are “kind, compassionate, and handle [pet] well.” And, for example, although more than one-fifth of the dog-owning households who didn’t visit a veterinarian reported that they did not have the money to pay for it, only 5% (0.85% of all dog owners) did not visit a veterinarian because they “did not think the care was worth the cost.”



3 VISITS, \$495

Per dog-owning veterinary client household in 2016

2.4 VISITS, \$335

Per cat-owning veterinary client household

2.6 VISITS, \$348

Per bird-owning veterinary client household

2.8 VISITS, \$1,098

Per horse-owning veterinary client household



A photograph showing a person's hands holding an open book. A grey tabby cat is curled up next to the book, resting its head on a white knitted blanket. The scene is warm and cozy, with soft lighting.

chapter 1:

ALL PET-OWNING HOUSEHOLDS

The “all pets” chapters show the sum data about dogs, cats, birds horses, and “specialty or exotic” pets.

All households who owned a pet at any time during 2016 are the basis for the nationwide estimates. More than half (59.2%) of all U.S. households owned at least one pet at some time in 2016. That is slightly lower than the 2011 rate of 62.4% (S2_TAB 1).

The most plausible and most important reason that overall household pet ownership rates are lower is that the rates of cat and horse ownership have fallen since 2011 and 2006. Other likely reasons are explained in Appendix A. The 2017 PDS has fewer sampling bias problems than the 2011 PDS. Correcting those biases resulted in more accurate but lower rates of cat, horse and bird ownership, and a higher rate of dog ownership in 2016, than were reported in the 2012 PDS.

The responses to two legacy PDS questions are summarized in this short introductory chapter. The first legacy question is, for each pet species, “How many times in total did you take your [pet](s) to the veterinarian last year?” As in all PDS surveys since 1987, respondents were cued to report all visits with every pet, by species: “e.g., 2 dogs owned, each taken two times = 4 total.” The AVMA’s 2015 pilot study—validated by actual veterinary client record data—showed that the answers to this question were stochastically accurate.

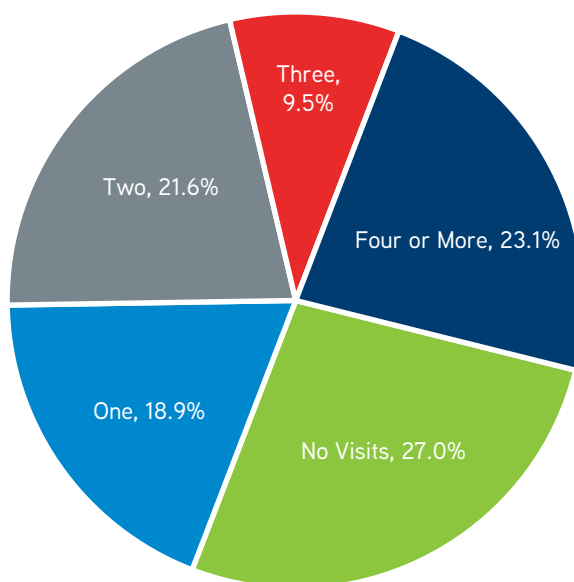
S2_TAB 1. PERCENT OF HOUSEHOLDS WHO OWNED PETS ANY TIME DURING THE YEAR, 2006-2016

	2006	2011	2016
All Pets	59.5%	62.4%	59.2%
Dogs	38.6%	41.2%	40.1%
Cats	33.3%	34.2%	26.5%
Birds	4.1%	3.7%	3.0%
Horses	1.9%	1.8%	0.8%
Specialty/Exotic Pets	13.5%	12.3%	15.2%

Overall, almost three-quarters (73%) of all pet-owning households made at least one visit to the veterinarian in 2016 (S2_FIG1). See the other chapters in this section for data about visits to all other pet health care providers/employers of veterinarians and veterinary technicians—especially about visits to other providers for sterilization and routine/preventive care.

In 2016, households who owned pets made an average of 2.3 visits to the veterinarian (S2_TAB2). They made the most visits with dogs (2.4) and cats (1.3), and the fewest visits with specialty or exotic pets (0.2). On a per pet “headcount” basis, households who owned pets brought dogs to the veterinarian at a rate of 1.5 visits per dog owned, and 0.7 visits per pet cat. In contrast, a very low rate of veterinary visits was made with pet birds (0.1 visits/pet bird) and specialty or exotic pets (0.02 visits to a veterinarian per specialty or exotic pet).

S2_FIG 1. DISTRIBUTION OF PET-OWNING HOUSEHOLDS BY NUMBER OF VISITS TO THE VETERINARIAN, 2016



Total veterinary visits are estimated in all PDS studies by multiplying the estimated number of households who owned a pet anytime during the year by the number of visits per pet-owning household. Equivalently, the total veterinary visits are estimated by multiplying the estimated number of pets owned anytime during the year by the number of visits per pet. In terms of all visits, dogs made the largest share of veterinary visits (71.6%). Households owning specialty and exotic pets made a larger share of all veterinary visits (1.8%) than households with birds (0.7%) or with horses (0.9%).

From a veterinary practice owner's perspective, the last two rows of S2_TAB 2 might be most useful. These rows show the number of visits per veterinary client household with each type of pet. Dog-owning veterinary clients make the most visits: an average of three visits per year to a veterinary clinic or hospital. Horse-owning clients are seen 2.8x per year by a veterinarian. Because pet-owning households often own more than one pet, that is almost two visits per dogs owned by veterinary clients, and 1.3 visits/year per horse owned by veterinary clients.

S2_TAB 2. NUMBER OF VETERINARY VISITS PER HOUSEHOLD AND PER PET BY OWNERS OF ALL PETS, DOGS, CATS, BIRDS, HORSES AND SPECIALTY/EXOTIC PETS, 2016

	All Pets	Dog	Cat	Bird	Horse	Spec/Exotic
Visits per Household	2.3	2.4	1.3	0.3	1.6	0.2
Visits per Pet	0.5	1.5	0.7	0.1	0.7	0.02
Total Visits (in Millions)	172.3	123.3	43.2	1.2	1.6	3.0
% Total per Species	100.0%	71.6%	25.1%	0.7%	0.9%	1.8%
Visits per Vet Client		3.0	2.4	2.6	2.8	
Visits per Vet Client Pet		1.8	1.3	1.1	1.3	

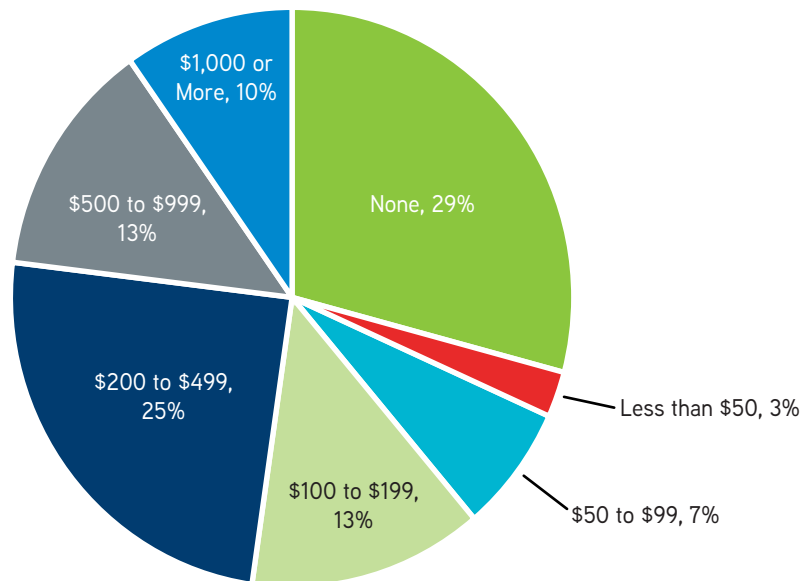
The visit frequency of visits to the veterinarian by the average veterinary client differs most dramatically from the global averages for cats and birds. The average numbers of visits by cat-owning veterinary client households is 2.4/cat/year—well over three times the estimated 0.7/visits/cat/year among all cat-owning households.

The second legacy question summarized in this introductory chapter is “How much money did you spend at the veterinarian on (all) your dog(s) in total last year?” Once again, the answers to this legacy question were shown to be stochastically accurate, after dropping the observations from respondents that were internally inconsistent (See Appendix A). In the AVMA's 2015 pilot study, the internally consistent answers to this question predicted spending at veterinary clinics or hospitals at the rate of 99 cents per dollar actually spent, according to their purchase records from their veterinarians.

A majority (71%) of pet-owning households spent something at the veterinarian in 2016 (S2_FIG 2). The largest share of households (25%) spent between \$200 and \$500 at the veterinarian. The 2016 distribution is very similar to the 2011 distribution of veterinary expenditure.

A sizeable portion (29%) do not spend anything at veterinary clinics or hospitals (S2_FIG 2). This is a slightly higher percentage compared to the 27% who make no visits. The difference is due to the small percentage of pet owners who received veterinary care for no charge—see the pet chapters in this section for the detailed data. A rising percentage of pet owners also visit other venues for pet health care, however, instead of veterinarians. Again, these data are detailed in subsequent chapters in this section.

S2_FIG 2. DISTRIBUTION OF PET-OWNING HOUSEHOLDS BY VETERINARY EXPENDITURES, 2016



Total expenditures on veterinary services is calculated by multiplying the expenditure per pet-owning household by the number of pet-owning households. Equivalently, total veterinary expenditure is calculated by multiplying the expenditure per visit by the total number of visits. Or, by multiplying the expenditure per pet by the total number of pets. Either way, in 2016, pet-owning households spent a global average of \$373 per household at the veterinarian (S2_TAB3).

Again, the last two rows of S2_TAB3 provide information most relevant to a veterinary practice owner. They show that the average client with cats, for example, spent \$335 at their veterinarian in 2016. That is, a veterinary practice owner can expect to earn much more than \$182 per year from cat-owning clients. Similarly, an equine practice owner should expect to earn much more than \$614 per horse-owning client. The average equine vet client household spent \$1,098 in 2016, or \$507 per client-owned horse.

Another implication of the “average client” data in S2_TAB3 is that a bird-owning veterinary client might be as valuable to a veterinary practice as is a cat-owning client. The average bird-owning veterinary client spent \$348 per year at the vet, slightly more than a cat-owning client, and many times more than the \$40/year global average of non-clients as well as clients. There is great opportunity here: Few pet bird owners (12%) get veterinary care for their birds. Raising the rate of compliance among bird owners will both improve the health of pet birds and increase the demand for avian veterinarians.

S2_TAB 3. VETERINARY EXPENDITURES AND TOTAL EXPENDITURE ON ALL PETS, DOGS, CATS, BIRDS, HORSES AND SPECIALTY/EXOTIC PETS, 2016

	All Pets	Dogs	Cats	Bird	Horse	Specialty/ Exotic
Expenditure per Household	\$373	\$410	\$182	\$40	\$614	\$13
Expenditure per Visit	\$161	\$168	\$141	\$132	\$395	\$82
Expenditure per Pet [1]	\$107	\$253	\$98	\$18	\$291	\$2
Total Expenditure (in Millions of Dollars)	\$27,762	\$20,670	\$6,075	\$154	\$615	\$248
Percent by Pet Species	100%	74.5%	21.9%	0.6%	2.2%	0.9%
Expenditure/Vet Client Household		\$495	\$335	\$348	\$1,098	
Expenditure/Vet Client Household Pet		\$308	\$177	\$150	\$507	



chapter 2:

MULTIPLE PET-OWNING HOUSEHOLDS



The fact that dogs are taken to the veterinarian more often than cats has long been documented. In addition, the 2012 PDS also showed that households take both cats and dogs less often when both species are in the household.

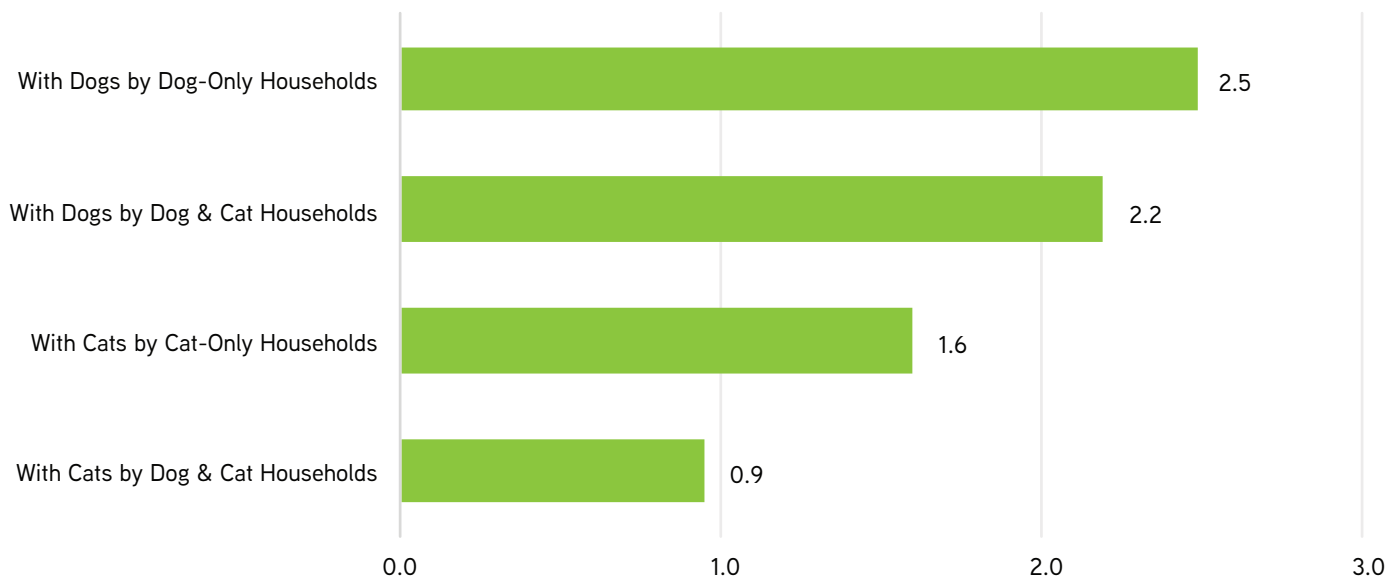
Households who own only dogs made 2.5 veterinary visits with their dog to the veterinarian, for example, but households who also own cats made 2.2 visits (S2_FIG 3).

In general, cat-owning households make 1.3 visits to the veterinarian with their cat (S2_TAB2). But they make more visits (1.6) if there are no other pets in the household, and much fewer visits (0.9) if there are dogs (and maybe other pets as well) in the household (S2_FIG 3).

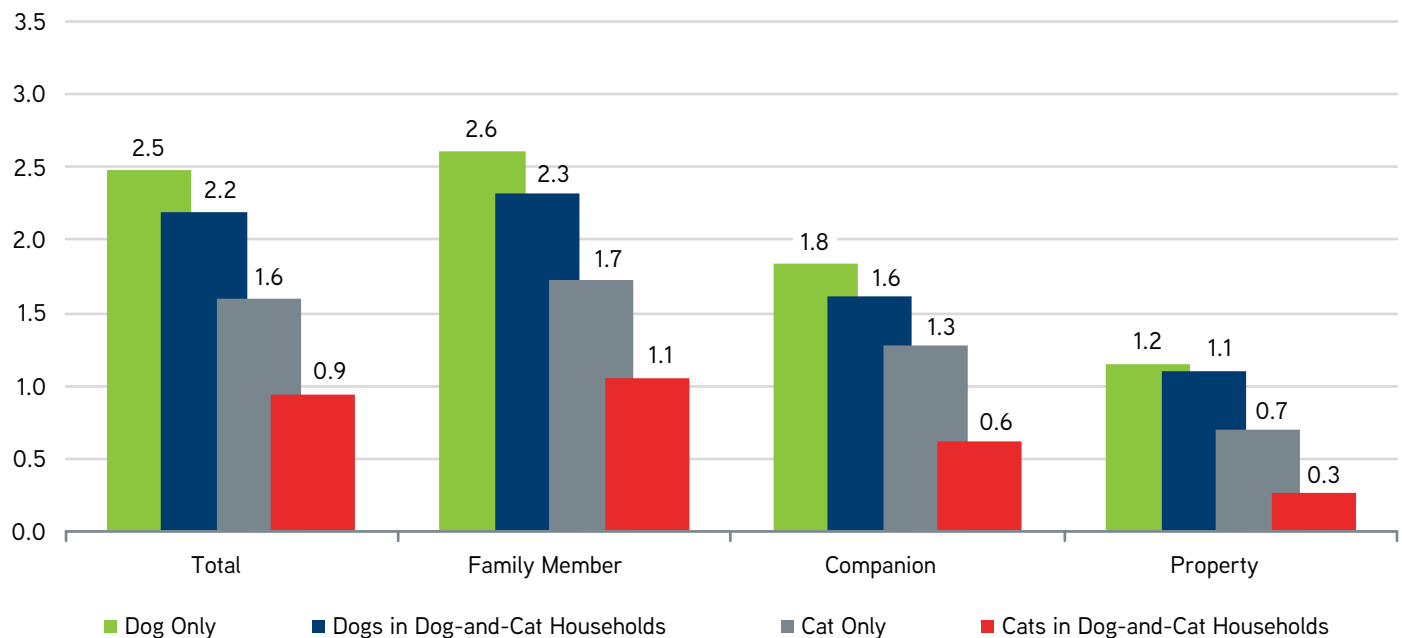
The frequency of visits to the veterinarian with dogs or cats continues to be strongly influenced by the human-animal bond. In 2016, almost all dog-owning households (85%) and most cat-owning households (77%) considered their pets “members of the family.”

That is why the visit frequency by households who feel their pets are “family” is only slightly higher than the all-household frequency (S2_FIG 4). In particular, pet-owning households that considered their pets to be family members had 2.6 visits versus 1.8 visits for pet-owning households that considered their pets to be companions, by dog-only families, and 1.7 versus 1.3 visits by cat-only households. But households who feel their pets are “companions” or “property under their care” clearly make fewer visits. The fewest (0.3) visits are made to see a veterinarian by households with cats who feel their cats are “property” and who own both cats and dogs (S2_FIG 4).

S2_FIG 3. VETERINARY VISITS WITH DOGS OR CATS BY SINGLE AND MULTIPLE-PET SPECIES HOUSEHOLDS, 2016



S2_FIG 4. VETERINARY VISITS BY DOG-ONLY, CAT-ONLY AND DOG-AND-CAT HOUSEHOLDS BY HUMAN-ANIMAL BOND, 2016



Veterinary expenditure per household is likewise highest for visits to the veterinarian with dogs among dog-only households who consider their dogs “family” (\$450) and lowest among multiple-pet households who indicated their cats are “property” (\$33) on visits to the veterinarian with their cats (S2_TAB 4).

S2_TAB 4. DISTRIBUTION OF VETERINARY EXPENDITURES BY DOG-ONLY, CAT-ONLY AND MULTIPLE-PET HOUSEHOLDS BY HUMAN-ANIMAL BOND, 2016

			Multiple-Pet Households	
	Dog Only	Cat Only	With Dogs	With Cats
We Consider Our Pets Members of Our Family				
No Expenditures	17.2%	32.9%	20.3%	53.0%
Less than \$50	2.9%	3.2%	2.2%	3.4%
\$50 to \$99	7.0%	10.8%	7.5%	9.4%
\$100 to \$199	15.5%	15.8%	15.9%	12.0%
\$200 to \$499	29.6%	21.8%	29.7%	14.7%
\$500 to \$999	16.1%	9.7%	14.1%	4.5%
\$1,000 or more	11.8%	5.7%	10.3%	2.9%
Expenditure per Household	\$450	\$256	\$387	\$136
We Consider Our Pets Companions				
No Expenditures	25.7%	43.1%	31.0%	69.3%
Less than \$50	2.7%	3.5%	3.9%	3.1%
\$50 to \$99	9.8%	11.0%	7.1%	5.3%
\$100 to \$199	18.4%	16.8%	16.2%	8.6%
\$200 to \$499	25.2%	15.0%	22.1%	8.4%
\$500 to \$999	11.7%	7.4%	11.0%	2.6%
\$1,000 or more	6.6%	3.3%	8.8%	2.5%
Expenditure per Household	\$292	\$194	\$295	\$98
We Consider Our Pets 'Property Under Our Care'				
No Expenditures	46.6%	66.6%	56.0%	84.3%
Less than \$50	7.0%	4.4%	2.6%	2.6%
\$50 to \$99	6.6%	4.4%	1.3%	2.8%
\$100 to \$199	12.4%	13.1%	12.2%	4.3%
\$200 to \$499	18.6%	5.8%	10.7%	2.4%
\$500 to \$999	7.8%	2.7%	14.0%	3.6%
\$1,000 or More	1.0%	3.0%	3.2%	0.0%
Expenditure per Household	\$137	\$107	\$183	\$33





chapter 3:

DOG-OWNING HOUSEHOLDS

A large majority (83%) of all dog-owning households made at least one visit to a veterinary clinic or hospital with their dog—for something—in 2016.

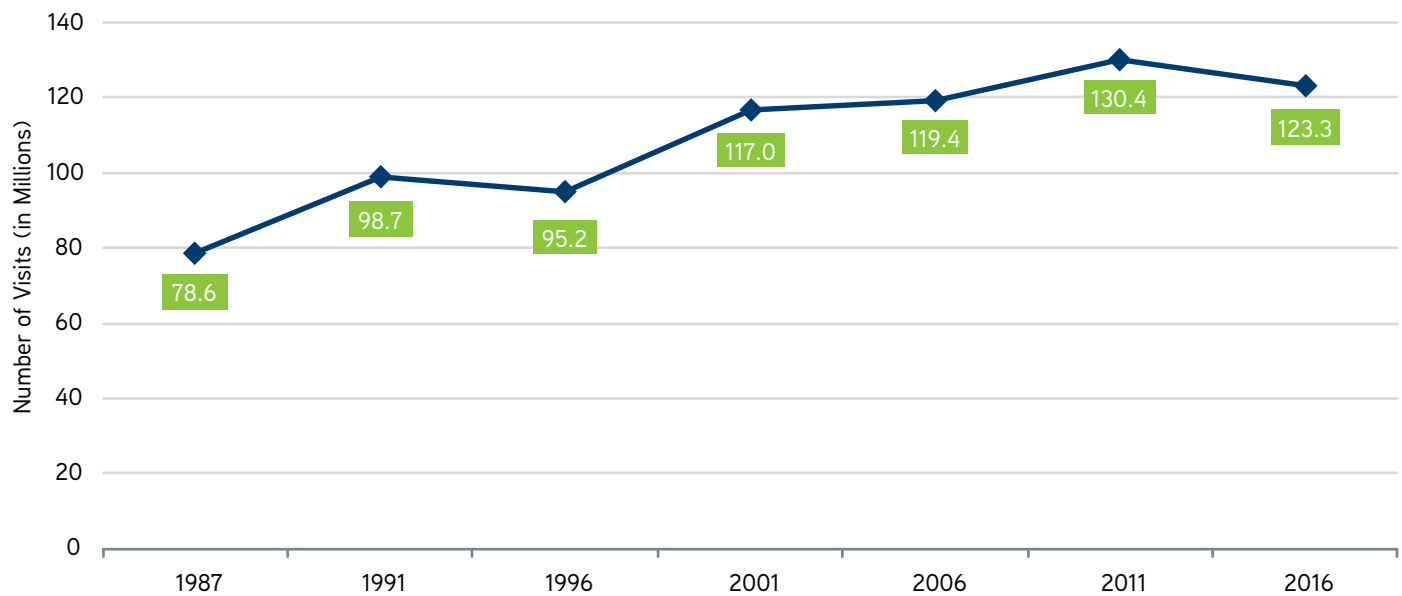
This is about the same share who have visited a veterinarian with their dogs since 1991 (S2_TAB 5). Note that 22% made one visit, 26% made two, 11% made three visits and nearly 24% made four or more visits to a veterinary clinic or hospital with their dogs in 2016. The 83% of the households who visited a veterinarian made an average of three visits per year with their dogs (that is, ignoring the households who made zero visits). And because many dog-owning households have more than one dog, those who visited a veterinary clinic or hospital made about two visits per dog, per year.

Total visits to veterinarians with dogs are estimated by multiplying the “anytime” dog population (81.7 million) during 2016 by visits per dog (1.5). This suggests that dogs made an estimated 123.3 million visits to veterinary clinics or hospitals in 2016 (S2_FIG 5).

S2_TAB 5. DISTRIBUTION OF DOG-OWNING HOUSEHOLDS BY NUMBERS OF VISITS TO THE VETERINARIAN, VISITS PER HOUSEHOLD AND VISITS PER DOG, 1987–2016

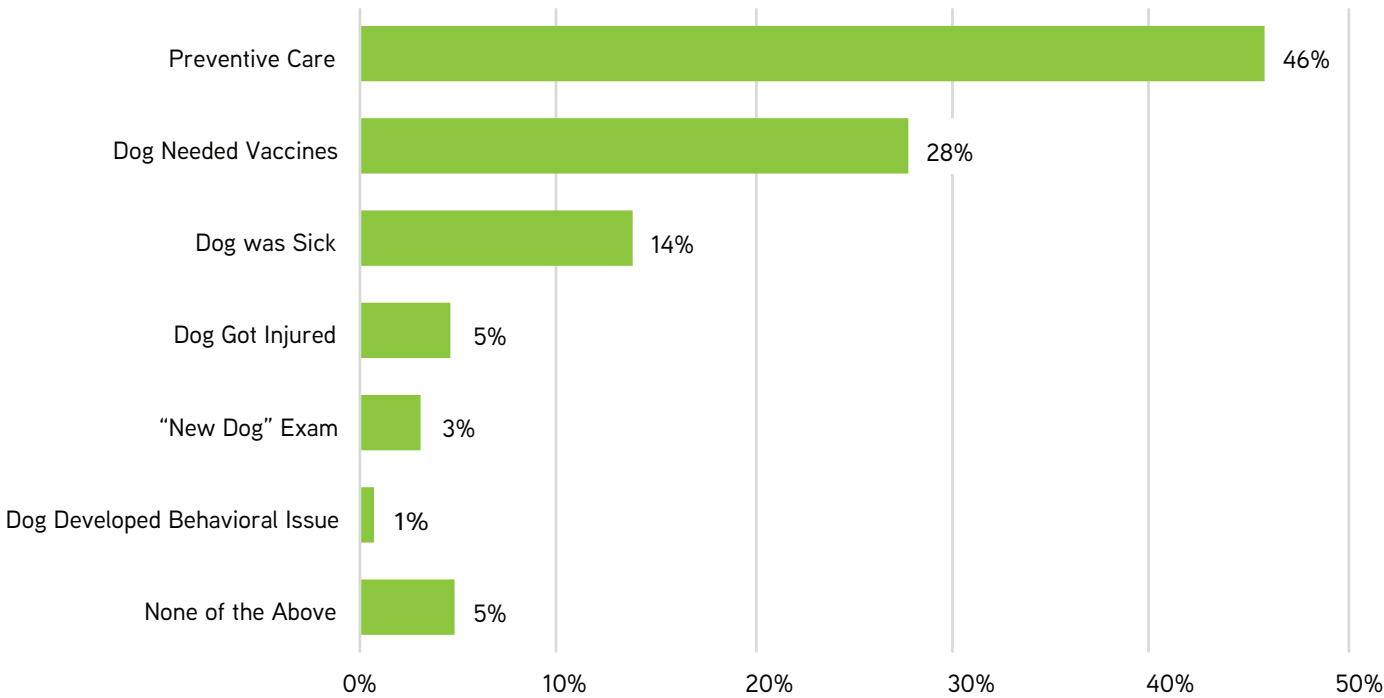
Number of Visits	1987	1991	1996	2001	2006	2011	2016
None	22.4%	17.7%	14.7%	16.4%	17.3%	18.7%	17.2%
At Least One	77.6%	82.2%	85.3%	83.6%	82.7%	81.3%	82.8%
One	23.3%	23.2%	24.0%	22.1%	22.9%	22.3%	22.0%
Two	22.2%	23.1%	24.6%	23.9%	23.5%	24.2%	26.2%
Three	11.1%	12.3%	12.4%	12.9%	12.2%	11.0%	10.7%
Four or More	21.0%	23.6%	24.3%	24.7%	24.1%	23.8%	23.9%
Per Dog Owning-Households	2.4	2.6	2.6	2.7	2.6	2.6	2.4
Per Dog	1.5	1.9	1.8	1.9	1.5	1.6	1.5
Visits/Veterinary Client Dog-Owning Household							3
Visits/Veterinary Client Dog							1.8

S2_FIG 5. NUMBER OF VISITS TO A VETERINARY CLINIC OR HOSPITAL BY DOG-OWNING HOUSEHOLDS, 1987–2016



For the first time, respondents to the 2017 PDS were asked to indicate the reason for their latest/most recent visit to the veterinarian. Three-quarters of those visits to a veterinary clinic or hospital were for routine or preventive care (S2_FIG 6). That is, almost half (46%) said it was for “preventive care (including an exam, tests, shots...)”. Another 28% said it was because their “dogs needed vaccines.” These two percentages sum to 74%. Nearly one-fifth (19%) made unscheduled visits—because their dog got sick (14%) or injured (5%). Fewer of the visits (3%) were for a “new dog exam.” Even fewer (1%) said they took their dog to the veterinarian because their “dog developed a behavioral issue.” The remaining 5% of the visits were for other reasons (sterilization, care for chronic illness not counted as “dog was sick,” euthanasia...).

S2_FIG 6. REASON FOR BRINGING THE DOG TO THE VETERINARY CLINIC OR HOSPITAL



S2_TAB 6. PRIMARY REASON FOR NOT TAKING DOGS TO THE VETERINARIAN IN 2016

	2016
Dogs Did Not Get Sick or Injured	35%
Did Not Have Money to Pay For It	23%
Dogs Did Not Need Vaccines	12%
We Gave Vaccines and Healthcare to Dogs Ourselves/at Home	9%
Price of Veterinary Care was Higher than We Think It's Worth	5%
Too Difficult to Transport Dogs	2%
No Veterinarians in the Area	1%
Vet Visit Experience Too Stressful	1%
None of the Above	11%

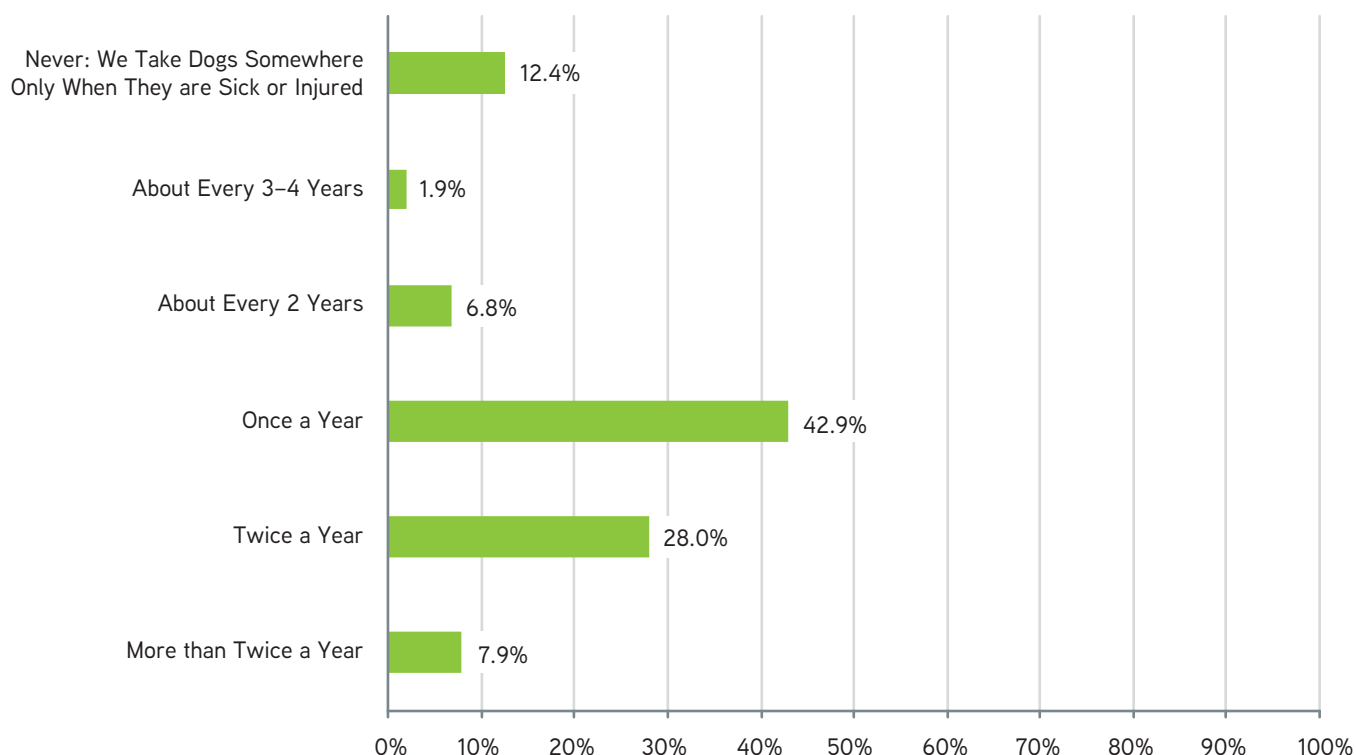
Among the 17% of all dog-owning households who didn't bring their dog to the veterinarian in 2016, more than a third (35%) said the main reason was because their "dogs did not get sick or injured." Just under a quarter (23%) said it was because they "did not have the money to pay for it;" 12% did not bring their dog in because the "dogs did not need vaccines"—they might have gotten vaccines that are good for more than one year, in the recent past. Consider that 9% did not bring their dogs in because, "We gave vaccines and health care to the dogs ourselves/at home." That is the first time this option has been on the PDS survey

Note that only 5% responded that the "price of veterinary care was higher than we think it's worth." This is the first time the two parts of "could not afford it" have been separated into the two distinct versions of "could not afford it," which are (1) "did not have the money" and (2) "the price is higher than we think it's worth." Analysis of previous PDSs showed that the two types of pet-owning households who said they "could not afford it" were the households with the lowest incomes and the highest incomes. It is unlikely that the high-income households who say they "couldn't afford it" do not have the money to pay for veterinary care. Now it is clear that only 5% of the 17% who did not visit a veterinarian—which is just 0.85% of all dog owners—said that they didn't visit because the cost of veterinary care was higher than they thought it was worth.

Finally, 2% said it was "too difficult to transport dogs" and 1% reported there were "no veterinarians in the area." However, together these responses are three times higher than the 0.9% who replied it was "too hard to transport dogs" to the 2012 PDS (Table 2-15, page 72, 2012 PDS). The difference might simply be due to the fact that the 2017 PDS did a better job of surveying rural as well as urban households at the rates they represent in the population (See Appendix A for specifics).

Do dog owners follow veterinarians' advice? Veterinarians recommend at least one routine and preventive care visit per year for every dog (<https://www.avma.org/KB/Policies/Pages/AAHA-AVMA-Canine-Preventive-Healthcare-Guidelines.aspx>). Almost four-fifths (78.8%) of the respondents claim that they bring their dogs in for routine/preventive care at least once a year (or more) (S2_FIG 7). That's up from the 74.5% who claimed the same, as reported in the 2012 PDS.

S2_FIG 7. ROUTINE CHECK-UPS/PREVENTIVE CARE FREQUENCY

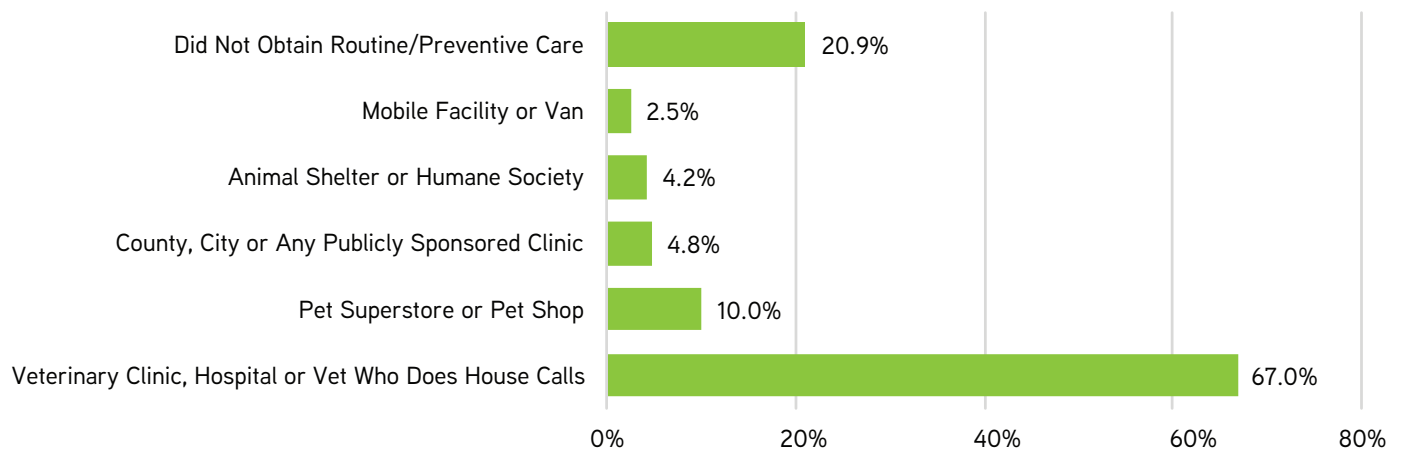


The 2017 PDS asked directly—for the first time—how many times those surveyed actually took their dogs somewhere for routine/preventive care in 2016, and found that 79% of all dog-owning households said they obtained routine/preventive care for their dog(s) in 2016 (S2_FIG 8). This confirms the responses in S2_FIG 7.

This 79% compliance rate counts all routine/preventive canine care visits to anywhere, not just to veterinary clinics or hospitals. Indeed, just two-thirds (67%) of the households who owned a dog at any time in 2016 patronized a veterinary clinic, hospital or veterinarian who does house calls for routine care (S2_FIG 8). Another 10% brought their dog(s) to a pet superstore or pet shop. And 4.8% took their dogs to a publicly sponsored clinic, 4.2% to shelter or humane society for routine/preventive care and 2.5% patronized a mobile facility.

Most dog-owning households patronized more than one type of routine care provider, so the sum of these percentages would double-count those households. The properly calculated portion who did not obtain routine care anywhere was 20.9%.

S2_FIG 8. PERCENT OF DOG OWNING HOUSEHOLDS TAKING THEIR DOGS SOMEWHERE FOR ROUTINE CARE, 2016

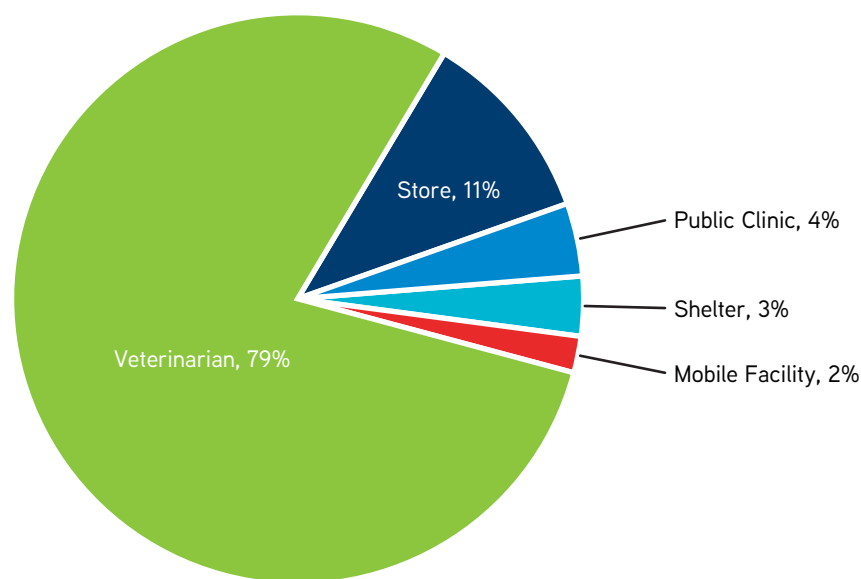


The 2017 PDS is the second time that dog owners were asked directly about any and all providers. The first time was the pretest survey conducted by the AVMA in 2015. That pretest showed that when asked about visiting a veterinarian for routine dog care, survey respondents report only their visits to veterinary clinics or hospitals. To document the care obtained from veterinarians and veterinary professionals in other venues, we asked directly about visiting other venues in the 2017 PDS. A solid majority (67%) of all routine/preventive care visits were to veterinary clinics or hospitals, or with a veterinarian who does house calls (S2_FIG 8).

The majority (59%) of dog owners who patronized veterinary clinics or hospitals made more than one routine care visit in 2016 (S2_TAB 7). Note that 41% made one visit to a veterinarian for routine/preventive care, which corroborates the 43% who said they visited a veterinarian “once a year” (S2_FIG 7). Households making multiple visits for routine care include households with multiple dogs as well as households who bring each dog in more than once a year.

Many dog owners take their dogs to a variety of providers for routine/preventive care. However, the vast majority (87%) of the households who patronized veterinary clinics or hospitals did not go anywhere else (S2_TAB 8). But 7% also obtained routine/preventive care at a pet superstore or pet shop, 2% also got shelter care, 2% also got routine/preventive care at a publicly sponsored clinic and 1% also obtained routine care at a mobile facility or van. In contrast, among the ~10% of households who obtained routine/preventive care at pet superstores, only 32% did not go anywhere else, while 45% also visited veterinary clinics or hospitals for routine/preventive care, 7% also got shelter care, 9% visited a public clinic, etc.

S2_FIG 9. PERCENT OF ROUTINE/PREVENTIVE CARE VISITS BY CARE PROVIDER TYPE, 2016



S2_TAB 7. PERCENT OF HOUSEHOLDS WHO MADE ONE OR MORE ROUTINE/PREVENTIVE CARE VISITS TO A VETERINARIAN WITH THEIR DOGS IN 2016

Number of Visits in 2016	Households Who Visited a Veterinary Clinic or Hospital for Routine/Preventive Canine Care
One	41%
Two	31%
Three	9%
Four or More	19%

S2_TAB 8. PERCENT OF HOUSEHOLDS VISITING EACH PROVIDER TYPE, 2016

	Veterinarian	Shelter	Public Clinic	Superstore	Mobile Van
Veterinarian	87%	32%	34%	45%	39%
Shelter	2%	31%	11%	7%	13%
Public Clinic	2%	13%	30%	9%	13%
Pet Superstore	7%	17%	18%	32%	28%
Mobile Van	1%	8%	7%	7%	8%
	100%	100%	100%	100%	100%

The total amounts paid by dog owners for all routine/preventive care purchased from each provider type divided by the number of visits the households made gives the amount paid per routine visit, by provider type (S2_TAB 9). Note also that some routine/preventive care is provided free of charge. The percentages of no-cost (“free”) routine/preventive care visits made to each type of provider are also shown in S2_TAB 9. Some of these “free” visits to a veterinarian and elsewhere might be paid for under wellness plans. Further analysis of the 2017 PDS data can be conducted to test that hypothesis.

S2_TAB 9. AMOUNTS PAID PER ROUTINE/PREVENTIVE CARE VISIT AND PERCENT OF FREE VISITS, BY PROVIDER TYPE, 2016

	Paid per Visit	Free
Veterinary Clinic, Hospital or Vet Who Does House Calls	\$138	3.9%
Shelter or Humane Society	\$71	12.0%
Publicly Sponsored Clinic	\$58	13.3%
Pet Superstore	\$71	9.6%
Mobile Facility	\$66	8.9%

The Guidelines² for canine routine/preventive care states that every dog should receive the following services, tests and products at least annually:

- 1) Comprehensive physical examination
- 2) Dental care assessment
- 3) Behavior assessment
- 4) Body condition scoring
 - a. Nutrition assessment
 - b. Diet plan
- 5) Infectious and zoonotic disease assessment and control
- 6) Parasite prevention and control
 - a. Annual heartworm test
 - b. Annual parasite tests
 - c. Year-round parasite control
- 7) Vaccinations against:
 - a. Rabies
 - b. Distemper
 - c. Parovirus
 - d. Adenovirus-2

Assuming that veterinary clinics and hospitals provided every recommended service, test, vaccine and product on the list above, the data from routine care consumers show that a recommended routine care visit costs about \$140. That was the amount paid per visit in 2016 for routine care at a veterinary clinic or hospital, given that 3.9% of routine care visits to a veterinarian were provided free of charge (S2_TAB 9, above).

² <https://www.avma.org/KB/Policies/Pages/AAHA-AVMA-Canine-Preventive-Healthcare-Guidelines.aspx>

The other types of routine/preventive care providers apparently sold subsets of the full set of recommended services and products. And those subsets were purchased for the lower amounts paid per visit to other providers. Finally, note also that publicly sponsored clinics provided the largest portion (13.3%) of the routine/preventive care visits obtained for zero price paid. And shelters or humane societies provided 12% of the no-pay routine care visits that dog owners made to them in 2016.

The third of dog-owning households who did not visit a veterinary clinic or hospital for routine/preventive care in 2016, including the 13% who obtained that care from other types of providers, were invited to report, through the survey question “How much do you think your local veterinarians charge for a routine/preventive care visit?” The average response was \$133. Their answers showed that, on average, people might have fairly accurate knowledge of the price of the service bundle they chose not to buy. But not everyone: The highest estimated price was \$1,000, and the lowest was \$10.

About 8% of the dogs owned at some time were sterilized by their owners during 2016. A little under 4%, which is about 3 million dogs, were spayed (S2_TAB 10); Two-thirds (66%) of the spays were performed at a veterinary clinic or hospital. More than a fifth (21%) of these services were obtained from an animal shelter or humane society by the dogs’ owners, and about 13% were performed by a publicly sponsored clinic.

The amount paid per spay was estimated by dividing the total paid to each provider type by the total number of dogs spayed at each provider type. That was \$108 per spayed dog at a veterinary clinic or hospital, \$36 per spayed dog at a shelter or humane society clinic and \$53 at a publicly sponsored clinic. Note that that rate includes the dogs spayed for no charge; 21% of the dogs spayed at a veterinary clinic were reportedly provided for a zero price, while 28% of the spays obtained at both shelters and publicly sponsored clinics were provided free of charge. The average non-zero price paid to a veterinary clinic for a spay was \$126; the maximum reported price was \$1,000. At a shelter or humane society clinic the average non-zero price paid was \$53, and the maximum reported price was \$400. At publicly sponsored clinics the average non-zero price paid was \$49, and the maximum reported price was also \$400.

Two-thirds (67%) of the neuters were also performed at a veterinary clinic or hospital. Less than one-fifth (19%) were performed at an animal shelter or humane society for the dogs’ owners, and about 13% were performed at a publicly sponsored clinic.

The amount paid per neutered dog was \$92 at a veterinary clinic or hospital, \$51 at a shelter or humane society clinic and \$47 at a publicly sponsored clinic. These rates also include the dogs neutered for no charge; 12% of the dogs neutered at a veterinary clinic were reportedly done for a zero price, while only 4% of the neuters obtained at shelters and only 1% of those at publicly sponsored clinics were provided free of charge. The average non-zero price paid to a veterinary clinic to neuter a dog was \$117, and the maximum reported price was \$1,000. At a shelter or humane society clinic the average non-zero price paid was \$65, and the maximum reported price was \$500. At publicly sponsored clinics the average non-zero price paid was \$67, and the maximum reported price was also \$500 (S2_TAB 10).

S2_TAB 10. CANINE STERILIZATION: PERCENT AND NUMBERS OF DOGS SPAYED AND NEUTERED, WHERE, PAID PER DOG, PERCENT FREE, AND AVERAGE NON-ZERO PRICE PAID, 2016

	Percent of Dogs Owned Anytime	Number of Dogs	Veterinary Clinic or Hospital	Shelter or Humane Society	Publicly Sponsored Clinic
Spayed	3.7%	3,006,408	66%	21%	13%
Paid per Dog			\$108	\$36	\$53
Percent Free			21%	28%	28%
Average Non-Zero Price Paid			\$126	\$53	\$49
Neutered	4.0%	3,267,700	67%	19%	13%
Paid per Dog			\$92	\$51	\$47
Percent Free			12%	4%	1%
Average Non-Zero Price Paid			\$117	\$65	\$67

Approximately 2% of the dogs owned at some time during 2016 were euthanized. This is an estimated 1.3 million dogs. The respondents to the 2017 PDS were asked for the first time about the average price they paid per euthanasia. The amount paid per dog is calculated as the total sum reported paid divided by the total number of dogs euthanized; \$169 was paid per dog euthanized in 2016 (S2_TAB 11). However, 11% percent of the respondents paid no fee for the euthanasia at all. Excluding those who got the euthanasia free, the average non-zero price paid was \$175.

S2_TAB 11. EUTHANASIA: PERCENT AND NUMBER OF DOGS, AMOUNT PAID PER DOG, PERCENT FREE, AND AVERAGE NON-ZERO PRICE PAID PER DOG IN 2016

	Percent of Dogs Owned Anytime in 2016	Number of Dogs	Paid per Dog	% No Charge	Average Non-Zero Price Paid
Euthanasia	2%	1,315,442	\$169	11%	\$175

In addition to routine/preventive care and once-in-a-lifetime care like sterilization or euthanasia, dog owners obtain care for many other kinds of canine health issues: preventable diseases, accidents, chronic illnesses and so on. For the first time, respondents to the 2017 PDS were asked if their dogs “received preventive care or treatment for [three types of parasites, as well as] weight, obesity or nutrition issues.”

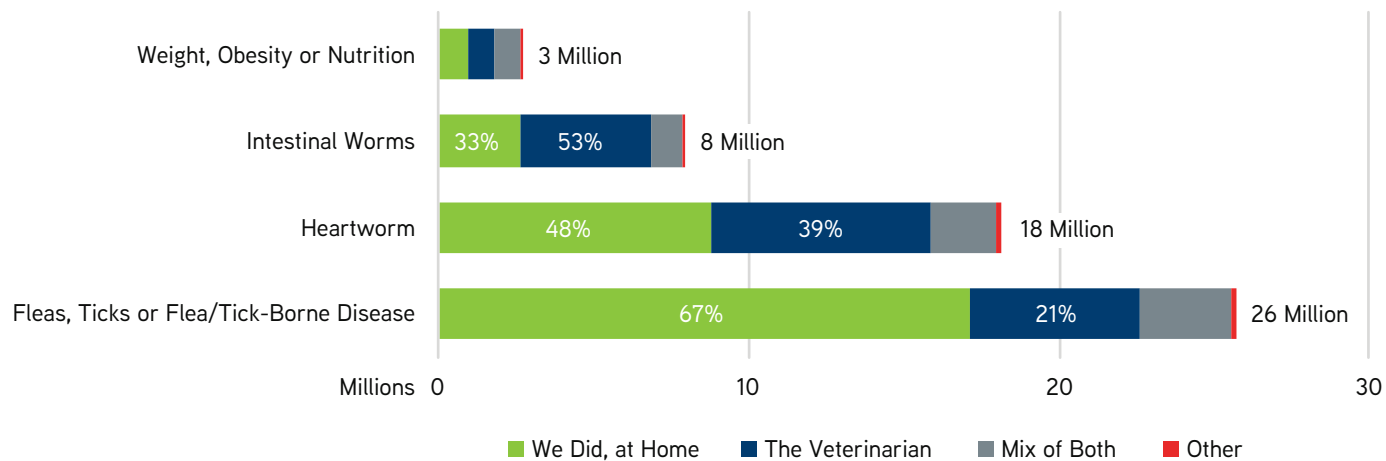
Half (51%) of households with dogs at any time in 2016—about 26 million households—are estimated to have prevented or treated fleas, ticks or the diseases caused by them (S2_TAB 12, S2_FIG 10). Among those who prevented or treated those pests, two-thirds (67%) gave the care “themselves, at home.” Just over one-fifth (21%) got the care from “the veterinarian.” Another 11% said “mix of both.” And 1% prevented or treated the fleas or tick problems some other way.

S2_TAB 12. PERCENT OF HOUSEHOLDS WHOSE DOGS RECEIVED PREVENTIVE CARE OR TREATMENT FOR PARASITES OR WEIGHT ISSUES, AND WHO PROVIDED THE CARE, 2016

	Households Who Owned Dogs with the Issue	Who Gave Preventive Care or Treated the Dogs?			
		We Did, at Home	The Veterinarian	Mix of Both	Other
Fleas, Ticks, Flea or Tick-Borne Disease	51%	67%	21%	11%	1%
Heartworm	36%	48%	39%	12%	1%
Intestinal Worms	16%	33%	53%	12%	2%
Weight, Obesity or Nutrition Issue	5%	34%	31%	32%	4%

Only 9.9% of respondents to the 2012 PDS reported purchasing “deworming” care. In contrast, the 2017 PDS data show that more than one-third of dog-owning households prevented and/or treated heartworm (36%) or intestinal worms (16%) (S2_TAB 12). Among the 18 million households preventing or treating canine heartworm, almost half (48%) reported they gave the care themselves, “at home;” 39% got the care from a veterinarian, and 12% reported that the care was provided by a mix of both themselves and the veterinarian. The 2017 PDS data appears to provide a more accurate estimate of the share of dog owners complying with the recommended heartworm prevention and care.

S2_FIG 10. NUMBERS OF HOUSEHOLDS AND PERCENT BY PROVIDER TYPE WHO PROVIDED PREVENTIVE CARE OR TREATMENT FOR PARASITES AND WEIGHT ISSUES, 2016



S2_TAB 13. PERCENT OF DOG-OWNING HOUSEHOLDS WITH THE ISSUE, AND WHO TREATED THE DOG BY CARE-GIVER TYPE, 2016

	HHs with Dogs with Issue	Who Treated the Dog for the Issue?			
		We Treated it at Home	Veterinary Clinic or Hospital	Mix of Both	Other
Broken Bones or Limb Loss	1.0%	4.0%	61.0%	31.0%	4.0%
Heart, Lung, Liver, Kidney Disease	1.0%	10.0%	67.0%	24.0%	--
Diabetes, Thyroid, Cushings, (Endocrine Diseases)	1.0%	7.0%	58.0%	30.0%	5.0%
Urinary Tract or Bladder Infection	3.0%	12.0%	69.0%	18.0%	1.0%
Arthritis	4.0%	25.0%	41.0%	32.0%	2.0%
Cancer, Tumor, Cyst, Mass or Growth	4.0%	2.0%	79.0%	17.0%	2.0%
Dental Disease or Problems (Bad Teeth, Gums, Breath)	6.0%	18.0%	59.0%	19.0%	4.0%
Allergy	7.0%	28.0%	40.0%	29.0%	3.0%
Skin Infection, Disorder, Disease (Itch, Rash, Fungus)	8.0%	22.0%	45.0%	33.0%	0.2%
Diarrhea, Vomiting, Ate Something Bad	9.0%	21.0%	55.0%	23.0%	0.3%
Ear Infection	10.0%	19.0%	51.0%	30.0%	1.0%

Prior pet ownership and demographics surveys asked pet owners to indicate which veterinary services and products they purchased for their dogs. The 2017 PDS focused on the pet health challenges they faced in 2016, regardless if they purchased services or products from a veterinarian.

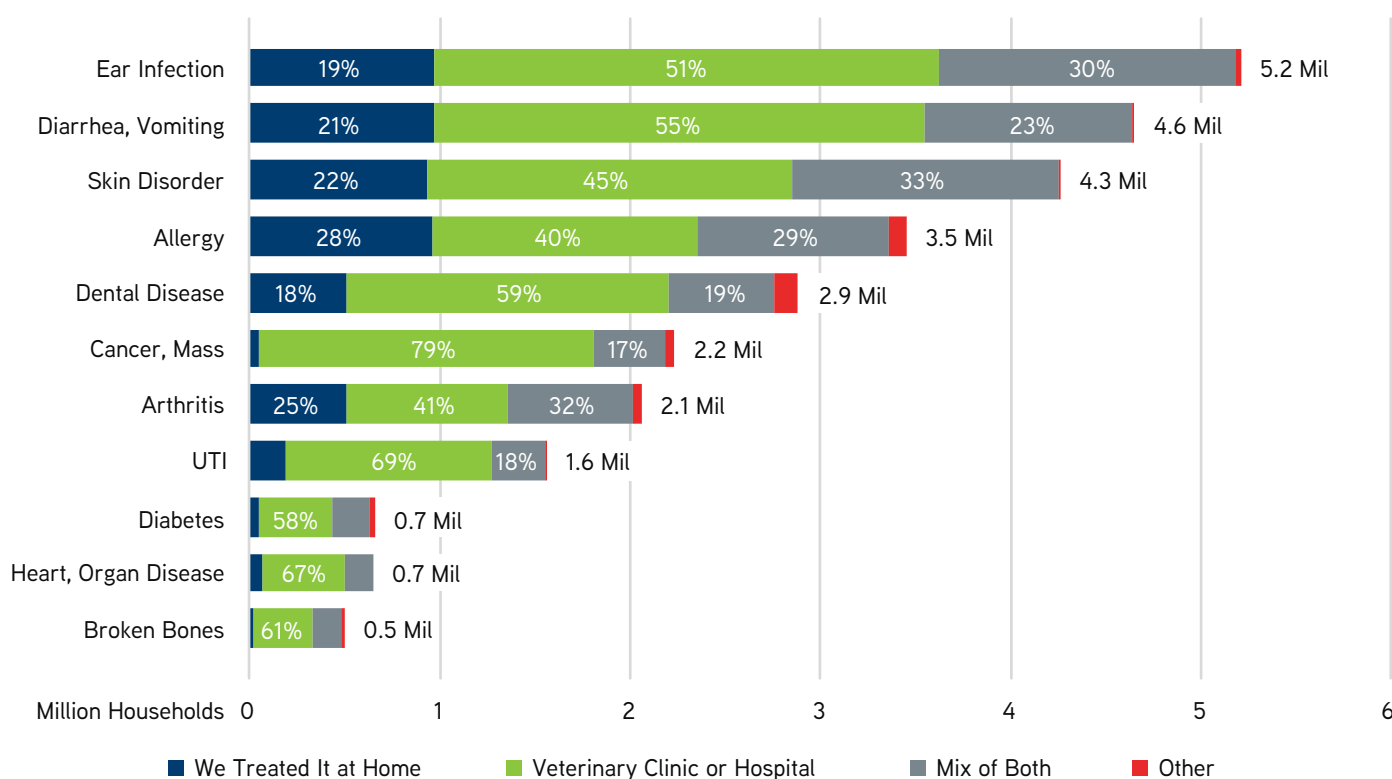
Ear infections, skin disorders and diarrhea/vomiting/ate something bad were the three most commonly reported episodic canine health issues faced by dog owners in 2016 (S2_TAB 13, S2_FIG 11). Specifically, about 5.2 million households—10% of the households who owned a dog at some time in 2016—had at least one dog that suffered from an ear infection (S2_FIG 11). While just over half (51%) of those households sought care at a veterinary clinic or hospital, 19% treated it at home and 30% worked with a veterinarian to treat their dogs' ear infections.

Data from pet owners about the pet care needs they meet by themselves/at home—the care pets need but is not provided by veterinarians—are data that complement, and cannot otherwise be learned from “supply side” data (e.g., product purchase or sales data gained from veterinarians or pet product companies). The 2017 PDS collected these new data about the health care needs that pet owners often treat themselves at home and obtain from a non-veterinarian source. These new data complete our knowledge of pet health care needs.

Cancers, tumors, masses or growths afflicted 4%, or 2.2 million dog-owning households (S2_FIG 11, S2_TAB 13). About four-fifths (79%) of these households obtained treatment from veterinary clinics or hospitals. Another 17% reported that a mix of both themselves and veterinarians collaborated to treat their dogs. Only 2% said they treated their dogs' cancers or tumors themselves, at home.

Allergies afflicted dogs in 3.5 million households in 2016. That was the ailment most treated by the most dog owners by themselves, at home: 28% replied that they treated their dogs' allergies themselves. Another 29% worked with veterinary care, and 40% sought care from a veterinary clinic or hospital (S2_TAB 13, S2_FIG 11). Similarly, arthritis—which afflicted dogs in 4% of dog-owning households, was treated by 25% of the dog-owners at home, by 32% of the households in collaboration with a veterinarian and by 41% at a veterinary clinic or hospital.

S2_FIG 11. NUMBERS OF HOUSEHOLDS WITH CANINE HEALTH ISSUES AND PERCENT TREATING THE ISSUE BY CARE-GIVER TYPE, 2016

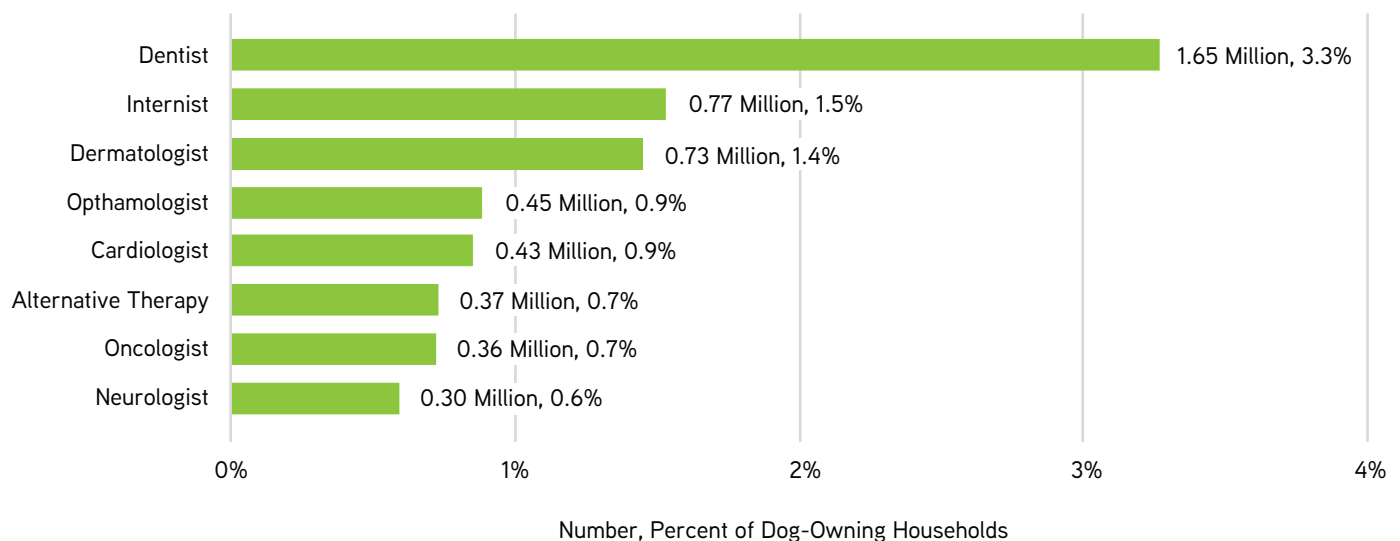


Small percentages of “other” care was also reported for all the issues except heart, lung, liver or kidney disease. For example, 4% of the those whose dogs needed dental care (about 121,000 households) reported seeking treatment from “other.” Another new question in the 2017 PDS asked about having dogs seen by veterinary specialists or providers of alternative therapy (chiropractor, acupuncturist...). Indeed, this revealed that 1.65 million dog-owning households had their dogs seen specifically by a dentist (S2_FIG 12). Together with the 2.9 million who reported dealing with dental disease issues, this sums to 4.55 million households who needed canine dental care in 2016.

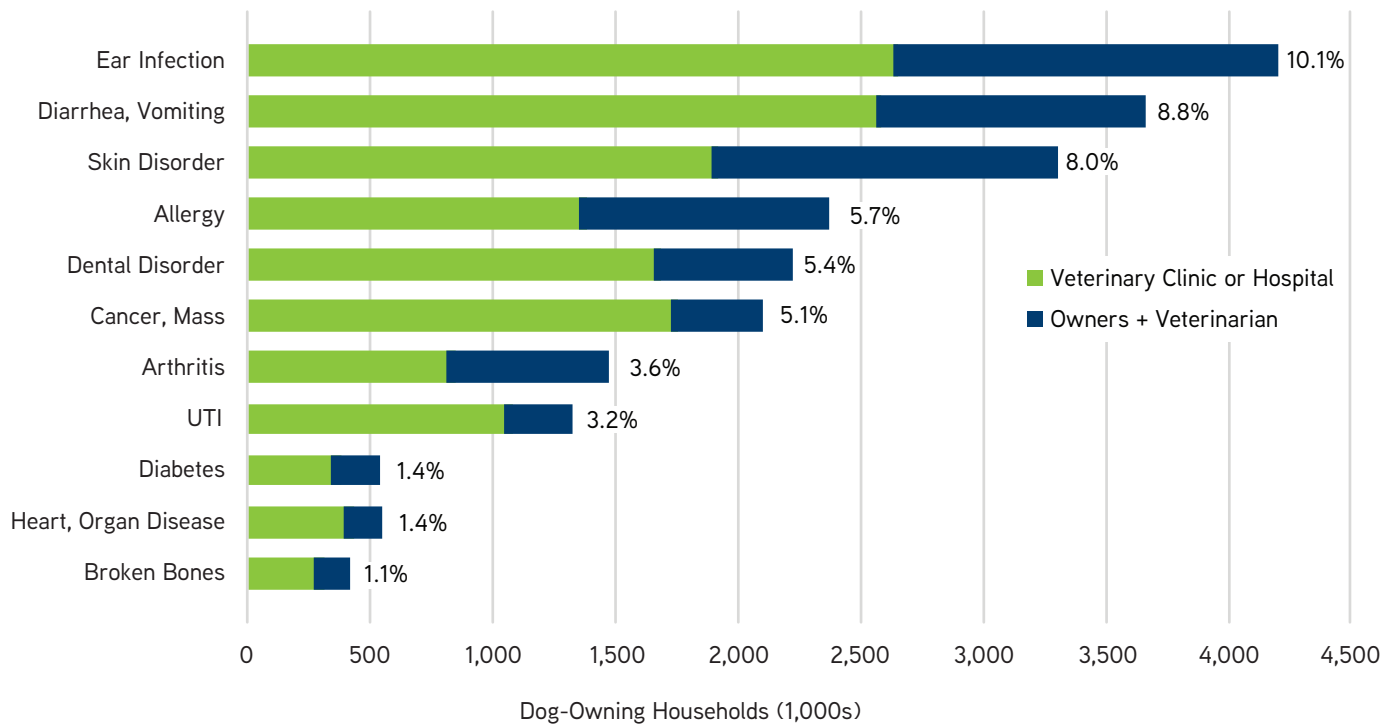
Historically, veterinary medical use was reported in past PDS reports in terms of the percentages of those who obtained the veterinary service or product among all dog owners who made at least one visit to a veterinarian. In contrast, the 2017 PDS veterinary care questions highlight the reasons dog owners sought veterinary care, rather than just identifying the elements in the bundles of services or products purchased to treat the issues.

The 2017 data summarized in S2_TAB 13 can also be reported in terms of the percentages of dog owners who visited a veterinarian with a dog at least once in 2016. (Remember also that the majority of visits to the veterinarian with dogs are for routine/preventive care.) In addition, more than 10% of canine veterinary clients also visit the veterinarian to address their dogs’ ear infections (S2_FIG 13), almost 9% to address their dogs’ diarrhea/vomiting or “ate something bad,” and 8% sought veterinary care for their dogs’ skin infection, disorder, disease (itch, rash, fungus).

S2_FIG 12. PERCENTAGES OF ALL DOG OWNERS WHOSE DOGS WERE SEEN BY CANINE VETERINARY SPECIALISTS OR ALTERNATIVE THERAPY PROVIDERS, 2016



S2_FIG 13. PERCENTAGES OF VETERINARY CLIENTS WHO SOUGHT TREATMENT FOR EACH DOG HEALTH ISSUE, 2016



As mentioned above, all previous PDS surveys asked respondents to indicate if they had obtained each item (or not) on a list of 19 services or products from a veterinarian at any time during the previous year for any of their dogs. The 2017 PDS's more detailed information was, however, abstracted into a format for comparison with the legacy question data from previous PDSs. S2_FIG 14 presents the comparable 2016 and 2011 data.

In 2011, for example, 32.6% of the households who visited a veterinarian with their dog(s) at some time in 2011 reported purchasing flea or tick products from a veterinarian at some point. In 2016, a similar 32.2% reported purchasing flea or tick products from a veterinarian. But some 2016 data differ significantly from 2011; the 2016 data suggest that 26% of canine veterinary clients obtained heartworm or intestinal worm prevention or treatment, for example, while the 2011 data suggests that only 9.9% did.

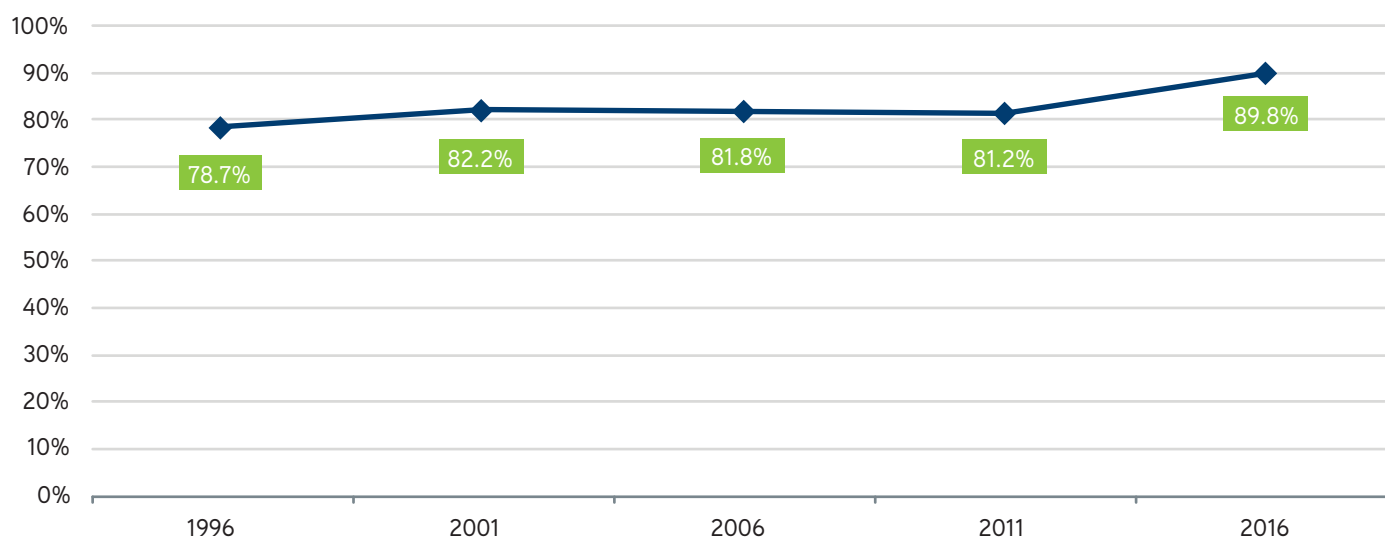
Because of the differences between the 2011 and 2016 survey questions, the data summarized in S2_TAB 14 are not always directly comparable. Furthermore, the respondents to the 2017 PDS come from rural and urban areas in proportions that more closely match the U.S. population, with 25% of respondents from the least urbanized areas, compared to 13% of the 2012 PDS respondents from the least urbanized areas (See Appendix A). Previous analyses have shown that the more urban the household, the higher the demand for canine veterinary care. Lower rates of veterinary service and product purchases in 2016 might therefore reflect either the effects of rising competition from new sources of veterinary care, a correction of an upward urban bias in the 2012 PDS data, or both.

S2_TAB 14. VETERINARY SERVICES/PRODUCTS OBTAINED FOR DOGS IN 2011 AND 2016

	2011	2016
	Percent of Veterinary Clients Who Purchased the Service or Product from a Veterinary Clinic or Hospital	
Routine/Preventive Care (Includes Exam, Vaccinations, etc.)	NA	80.9%
Vaccinations	84.0%	NA
Flea or Tick Products	32.6%	32.2%
OTC Medications*	41.7%*	32.0%
Blood or Lab Tests	36.6%	28.8%
Heartworm Or Intestinal Worm Care	9.9%	26.0%
Food	8.2%	9.5%
Dental Care and Products	14.1%	12.1%
Grooming	13.4%	9.0%
X-Rays	10.7%	8.8%
Emergency Care	16.1%	8.7%
Spay or Neuter	9.7%	8.2%
Surgery (Other than Spay/Neuter)	6.7%	5.0%
Boarding	7.3%	3.7%
Euthanasia	5.5%	3.2%
Behavioral Counseling or Training	0.9%	1.5%
Alternative Therapy	1.1%	0.9%

(*) 2011 "Drugs or Medications" Included Prescription Drugs, 2016 Includes OTC Medications Only.

S2_FIG 14. PERCENT OF ALL DOG-OWNING HOUSEHOLDS WITH A “REGULAR” VETERINARIAN, 1991–2016



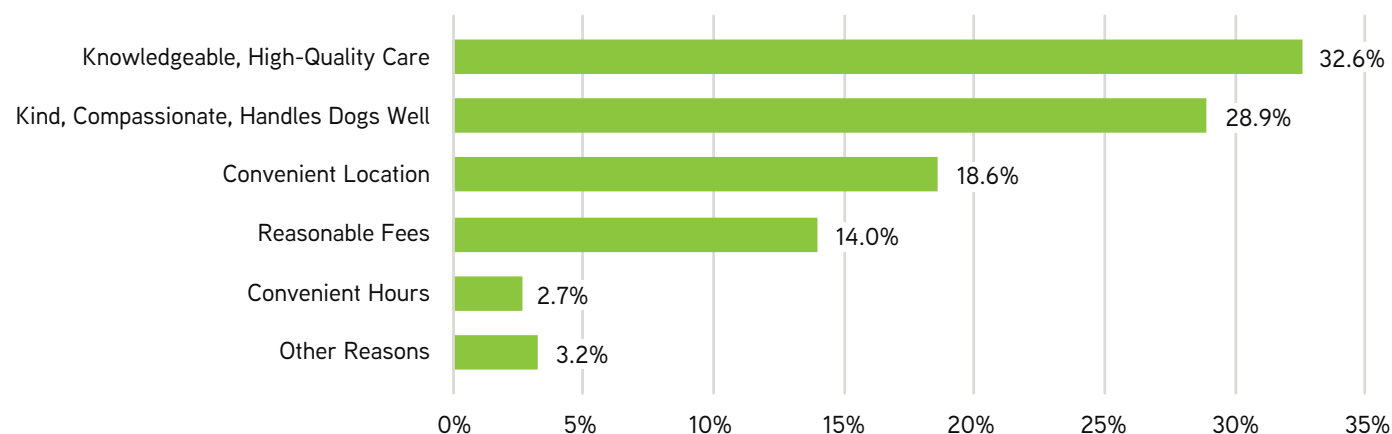
Most (89.9%) of the dog-owning households who patronized veterinarians during 2016 had a “regular veterinarian” (S2_FIG 14).

Why are 90% loyal to their regular veterinarian? The most often cited reason why they go to their regular veterinarian was for “knowledgeable, high-quality care” (32.6%) (S2_FIG 15). The second most often chosen reason (28.9%) was because their regular veterinarian is “kind, compassionate, handles dogs well.” These two most important reasons for staying with one’s regular veterinarian were not available answer options in the 2012 PDS.

However, 18.6% replied that the main reason they go to their regular veterinarian is because the location is convenient. This matches closely to the 18% who cited that same main reason, for the 2012 PDS.

The 16% percent of dog-owning households who brought their dog to a veterinarian at some time in 2016 but who did not see their “regular veterinarian” at their most recent visit were asked why they chose that veterinarian.

S2_FIG 15. MAIN REASON DOG OWNERS GO TO THEIR “REGULAR” VETERINARIAN, 2016



Among the 6% who had a “regular vet” but most recently saw a different veterinarian, the most cited reason was “reasonable fees” (19%), followed by “convenient location” (16%), “recommendation or reputation for high quality care” (13%), and then, “specialist” (10%) (S2_TAB 15). The first and third reasons—reasonable fees, high quality care—suggests that competitive fees and high-quality care are both very relevant for client retention. The second and fourth reasons are more likely attributes that are beyond a veterinary practice owner’s control and may not be competitive threats. For example, a dog owner with an emergency might patronize the closest veterinary clinic. Other dog owners might patronize a specialist when necessary. Neither case constitutes a significant threat to their relationship with their regular veterinarian.

Among those who did not have a regular veterinarian, convenient location (27%) and reasonable fees (27%) were most often cited. These two reasons should be taken into account by any veterinary practice considering expansion or a change in their business model. (“None of the above” is 100% minus the sum of the responses shown.)

S2_TAB 15. REASON FOR CHOICE OF VETERINARIAN BY DOG-OWNING HOUSEHOLDS FOR MOST RECENT VISIT TO A VETERINARIAN THAT WAS NOT THEIR “REGULAR VET,” 2016

	Have a “Regular Veterinarian”	Don’t Have a “Regular Veterinarian”
Convenient Location	16.0%	27.0%
Reasonable Fees	19.0%	27.0%
Recommendation or Reputation for High-Quality Care	13.0%	13.0%
Convenient Hours	9.0%	5.0%
Internet or Website	3.0%	4.0%
Specialist	10.0%	1.0%
Their Sign from Street	3.0%	1.0%
Yellow Pages	4.0%	1.0%
Print Advertisement (Not Internet)	1.0%	0.0%

Spending at the veterinarian has been stable for a decade. Four-fifths (80%) of all dog-owning households spent something at a veterinary clinic or hospital since 2006 (S2_TAB 16). Inflation alone accounts for the rise in expenditure per household, from \$378 in 2011 to \$410 in 2016. (Consumer prices rose 8.7% from 2011 to 2016). Inflation also explains the rising shares of expenditure in the higher-dollar categories. For example, the percent of households spending \$200 or more has risen from 48.8% in 2011 to 54.6% in 2016.

The amounts spent at the veterinarian continues to correlate positively with the reported human-animal bond (S2_TAB 17). Almost half (49%) of households who consider their dogs to be “property under their care” did not patronize any veterinarians in 2016, while only 18% of those who consider their dogs to be “a member of our family” did not patronize a veterinarian in 2016. And the expenditure per household who considered their dogs to be “family” at \$432, was \$270 higher than the \$162 expenditure per household who consider their dogs to be property under their care.

Expenditures are higher for households who feel their dogs are family members also because they own more dogs and make more visits, 2.6 visits compared to 1.9 visits among households who feel their dogs are “companions” and 1.2 visits per household for those who feels their dogs are “property under their care” (S2_FIG 16).

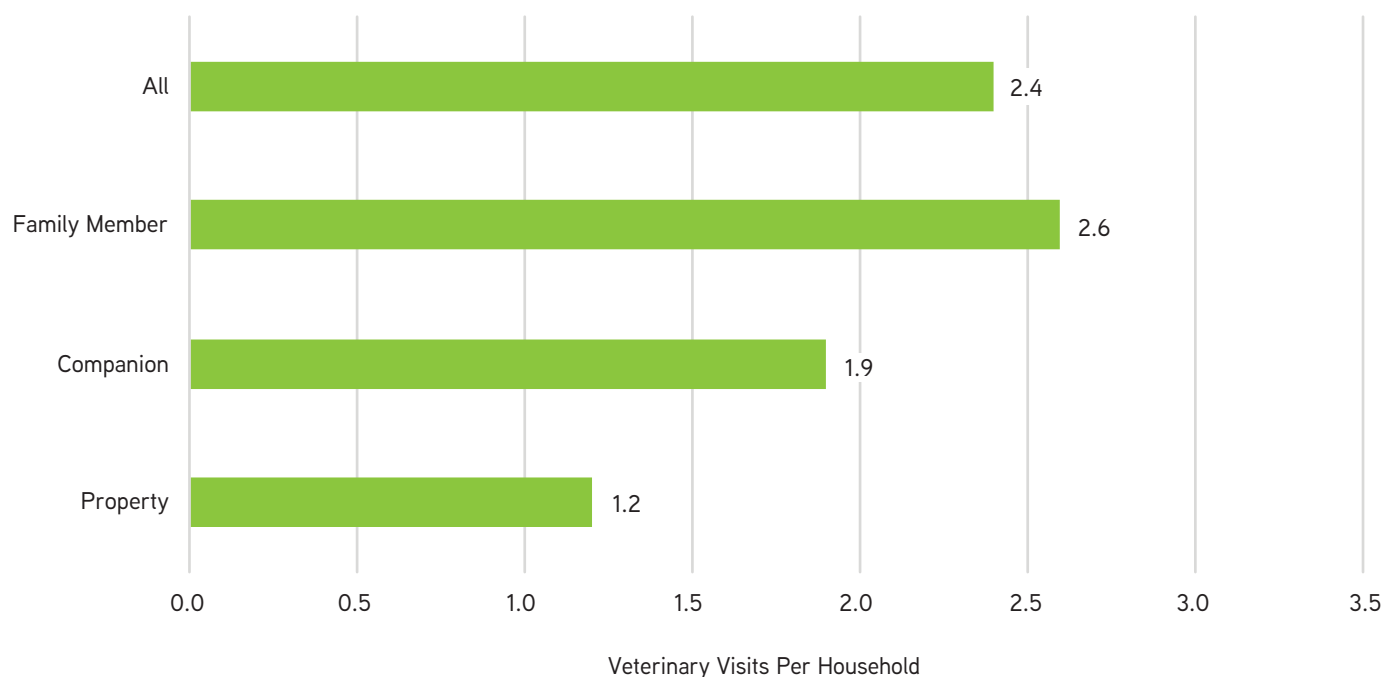
S2_TAB 16. DISTRIBUTION OF DOG-OWNING HOUSEHOLDS BY VETERINARY EXPENDITURES, PER HOUSEHOLD, PER VISIT, AND PER DOG, 1996–2016

	1996	2001	2006	2011	2016
No Expenditure	17.4%	18.9%	20.9%	20.1%	20.0%
Some Expenditure	82.5%	81.1%	79.1%	79.9%	80.0%
Less than \$50	11.4%	6.8%	4.5%	4.0%	2.5%
\$50 to \$99	17.9%	13.1%	8.9%	9.2%	7.4%
\$100 to \$199	21.5%	19.4%	15.8%	17.9%	15.5%
\$200 to \$499	23.4%	27.3%	29.4%	26.9%	28.7%
\$500 to \$999	6.1%	9.6%	12.1%	12.7%	15.1%
\$1,000 or More	2.2%	4.9%	8.4%	9.2%	10.8%
Expenditure/All Households	\$187	\$261	\$356	\$378	\$410
Expenditure/Visits	\$74	\$99	\$135	\$146	\$168
Expenditure/ All Dogs Owned Anytime	\$129	\$179	\$200	\$227	\$253
Average Spent per Household Who Visited a Veterinarian					\$495
Average Spent per Dog in Households Who Visited a Veterinarian					\$308

S2_TAB 17. VETERINARY EXPENDITURE BY HUMAN-ANIMAL BOND AND PER HOUSEHOLD, 2016

	We Consider Our Dogs to Be:		
	Family Member	Companion	Property
No Expenditures	18%	27%	49%
Less than \$50	2%	3%	4%
\$50 to \$99	7%	9%	5%
\$100 to \$199	15%	17%	13%
\$200 to \$499	29%	25%	15%
\$500 to \$999	16%	12%	10%
\$1,000 or more	12%	7%	3%
	100%	100%	100%
Expenditures per Household	\$432	\$295	\$162

S2_FIG 16. VETERINARY VISITS PER DOG-OWNING HOUSEHOLDS BY HUMAN-ANIMAL BOND



Veterinary visit frequency continues to vary by race and ethnicity, mainly because the numbers of dogs/household does, too. White households made 2.5 visits, African-American households made two (S2_TAB 18). There was little difference between White and Asian/Pacific Islander/American Indian/Eskimo and White and Latino/Hispanic households in terms of visits per household.

S2_TAB 18. FREQUENCY OF VISITS TO THE VETERINARIAN AND NUMBER OF VISITS PER HOUSEHOLD BY RACE AND ETHNICITY, 2016

	Race/Ethnicity			
	White	African-American	Asian/Pacific Islander/ American Indian/ Eskimo	Latino/Hispanic
None	16%	26%	18%	21%
One	22%	19%	22%	21%
Two	26%	26%	24%	27%
Three	11%	9%	12%	10%
Four or More	25%	20%	24%	21%
Visits per Household	2.5	2.0	2.3	2.2

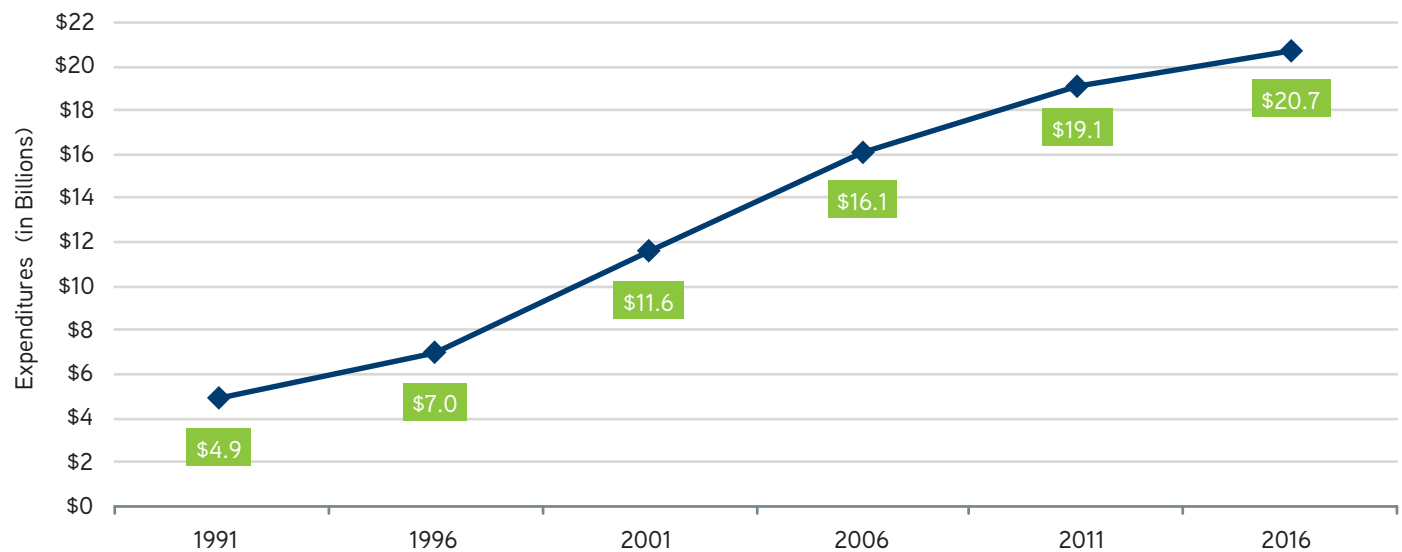
The human-animal bond is as potent a determinant of spending by dog-owning households at the veterinarian as is household income. S2_TAB 19 data show how spending varies. The lowest amount is spent by households in the lowest two income categories who felt their dogs are "property," more than 80% below the average of \$409/year. The highest-income households who feel their dogs are "family" spent \$627 in 2016, half again more than the average of \$409.

S2_TAB 19. VETERINARY EXPENDITURE PER DOG-OWNING HOUSEHOLD BY HOUSEHOLD INCOME AND HUMAN-ANIMAL BOND, 2016

Income Category	ALL	We Consider Our Dogs to Be:		
		Family	Companions	Property
Less than \$20,000	\$187	\$197	\$113	\$101
\$20,000 to \$34,999	\$267	\$281	\$193	\$77
\$35,000 to 54,999	\$384	\$400	\$279	\$273
\$55,000 to 84,999	\$451	\$479	\$312	\$124
\$85,000 or More	\$584	\$627	\$397	\$221

The expenditure per all dog-owning households multiplied by the total number of households who owned dogs anytime in 2016 gives the estimated total expenditures by households at the veterinarian with their dogs (S2_FIG 17). More than \$20.7 billion was spent on dog care at the veterinarian in 2016. This is 8.2% over the estimated 2011 total veterinary expenditure.

S2_FIG 17. TOTAL VETERINARY EXPENDITURES BY DOG-OWNING HOUSEHOLDS, 1991–2016



chapter 4:

CAT-OWNING HOUSEHOLDS



More than half (54%) of all cat-owning households made at least one visit to a veterinary clinic or hospital with their cat in 2016.

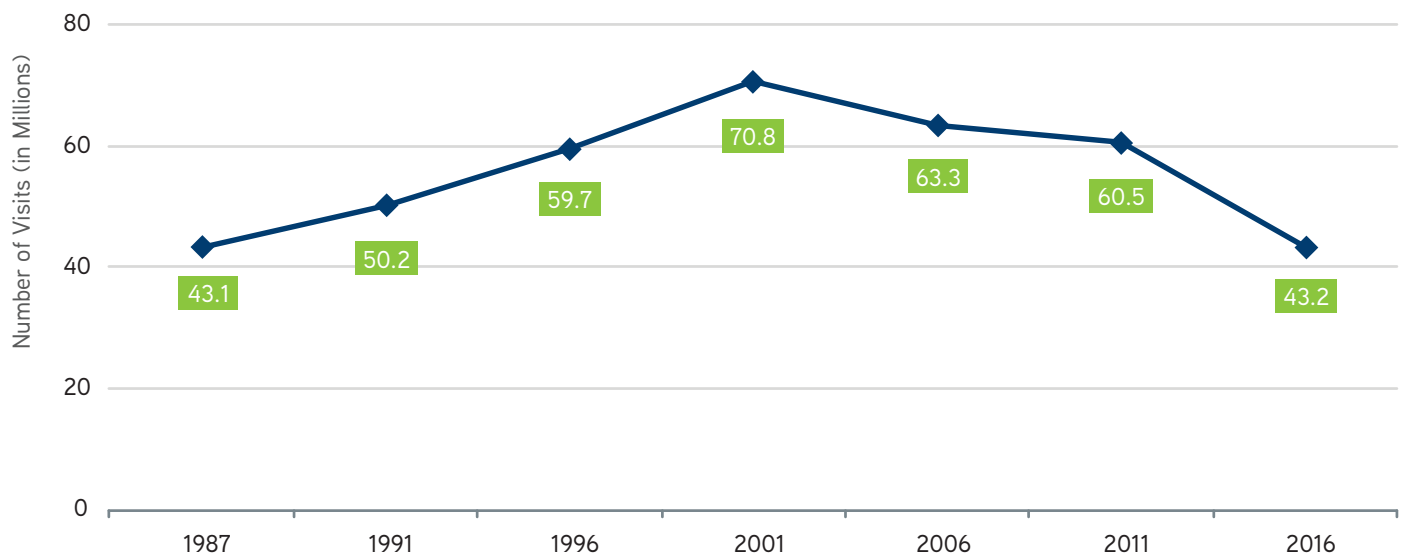
This was about the same share who visited a veterinarian with their cats in 2011 (S2_TAB 20). In 2016, 22% made one visit, 16% made two, almost 6% made three visits and 10% made four or more visits to a veterinary clinic or hospital with their cats. The 54% of households who visited a veterinarian made an average of 2.4 visits per year with their cats (that is, ignoring the households who made zero visits). And because many cat-owning households have more than one cat, those who visited a veterinary clinic or hospital made an average of 1.3 visits per cat, per year.

Total visits to the veterinarian are estimated by multiplying the "anytime" cat population (62 million) during 2016 by the visits per cat (0.7). This suggests that cats and their owners made an estimated 43.2 million visits to veterinary clinics or hospitals in 2016 (S2_FIG 18).

S2_TAB 20. DISTRIBUTION OF CAT-OWNING HOUSEHOLDS BY NUMBERS OF VISITS TO THE VETERINARIAN, VISITS PER HOUSEHOLD, AND VISITS PER CAT, 1987-2016

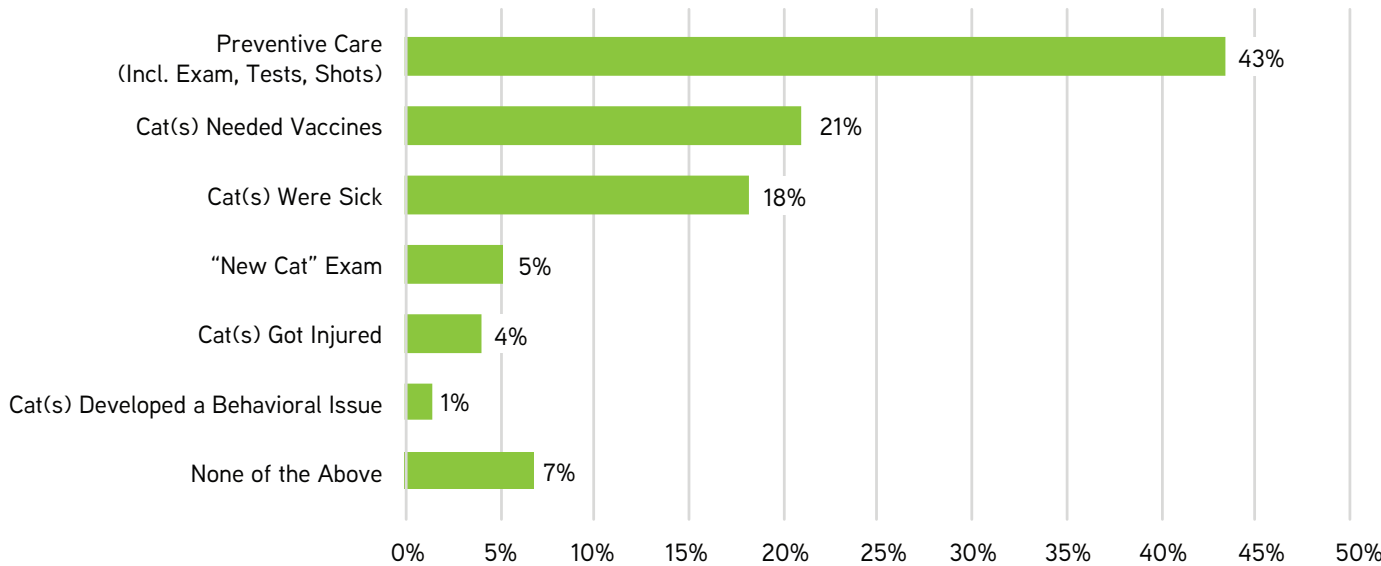
Number of Visits	1987	1991	1996	2001	2006	2011	2016
None	40.6%	37.6%	32.3%	34.7%	36.3%	44.9%	45.7%
At Least One	59.5%	62.4%	67.8%	65.3%	63.7%	55.1%	54.3%
One	22.5%	23.1%	26.1%	24.7%	26.3%	21.1%	21.9%
Two	16.2%	17.5%	18.3%	18.2%	17.5%	15.2%	16.3%
Three	7.5%	7.6%	8.7%	8.0%	7.1%	6.1%	5.8%
Four or More	13.3%	14.2%	14.7%	14.4%	12.8%	12.7%	10.3%
Visits/Cat-Ownning Household	1	1.6	1.9	1.8	1.7	1.6	1.3
Visits/Cat Owned Anytime	0.8	0.9	1	1	0.7	0.7	0.7
Visits per Household Who Visited a Veterinarian with a Cat							2.4
Visits/Cat in Households Who Visited a Veterinarian							1.3

S2_FIG 18. NUMBER OF VISITS TO VETERINARY CLINICS AND HOSPITALS BY CAT-OWNING HOUSEHOLDS, 1987–2016



For the first time, respondents to the 2017 PDS were asked to indicate the reason for their latest visit to the veterinarian with their cat(s). Almost two-thirds of the visits to a veterinary clinic or hospital were for routine or preventive care (S2_FIG 19). Almost half (43%) said it was for “preventive care (including an exam, tests, shots...)”. Another 21% said it was because their “cats needed vaccines.” These two percentages sum to 64%. More than a fifth (22%) made unscheduled visits—because their cat got sick (18%) or injured (4%). A “new cat” exam represents 5% of the visits and 1% said they took their cat to the veterinarian because their “cat developed a behavioral issue.” The remaining 7% of the visits were for other reasons (sterilization, care for chronic illnesses that were not already reported as “cat was sick,” euthanasia...).

S2_FIG 19. REASON FOR BRINGING THE CAT TO THE VETERINARY CLINIC OR HOSPITAL



Among the 46% of all cat-owning households who didn’t bring their cat to the veterinarian in 2016, most (41%) said the main reason was because their “cats did not get sick or injured;” 16% said it was because they “did not have the money to pay for it;” 14% did not bring their cat in because the “cats did not need vaccines;” and 5% did not bring their cats in because “we gave vaccines and health care to the cats ourselves/at home.” This is the first time this last option has been on the PDS survey.

S2_TAB 21. PRIMARY REASON FOR NOT TAKING CATS TO THE VETERINARIAN IN 2016

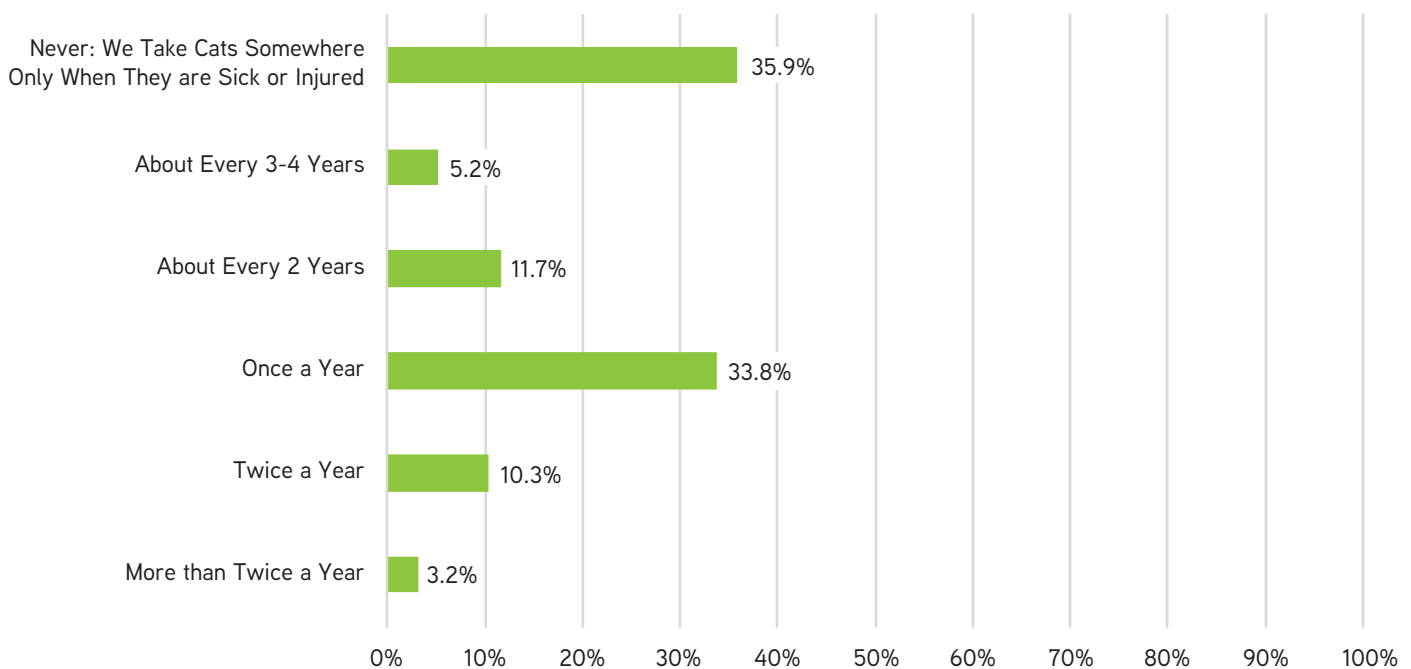
	2016
Cats Did Not Get Sick or Injured	41.0%
Did Not Have Money to Pay for It	16.0%
Cats Did Not Need Vaccines	14.0%
We Gave Vaccines and Healthcare to Cats Ourselves/at Home	5.0%
Price of Veterinary Care Was Higher than We Think It's Worth	4.0%
Too Difficult to Transport Cats	4.0%
Vet Visit Experience too Stressful	2.0%
No Veterinarians in the Area	0.5%
None of the Above	13.0%

Note that only 4% responded that the “price of veterinary care was higher than we think it’s worth.” More than 21% of the 2012 PDS respondents reported they “could not afford it.” Now it is clear that while 16% did not feel they had the money to pay, only 4% felt it wasn’t worth the price. Thus, less than 2% of all cat owners said that the cost of veterinary care was higher than they think it’s worth. Note, however, that the share of cat owners who feel that way is more than twice the rate of dog-owning households who do.

Finally, 4% said it was “too difficult to transport cats,” and 2% did not bring their cats in because they felt the visit would be “too stressful.” Only 0.5% reported that there were “no veterinarians in the area.” Together with “too difficult to transport cats,” however, creates a sum of responses (4.3%) that is a third higher than the 3.2% who replied to the 2012 PDS it was “too hard to transport cats” (Table 2-29, page 85, 2012 *PDS*). This higher rate on the 2017 PDS might be because the 2017 PDS did a better job of surveying rural as well as urban households at the rates they represent in the population (see Appendix A for specifics).

Do cat owners follow veterinarians’ advice? Veterinarians recommend at least one routine and preventive care visit per year for every cat (<https://www.avma.org/KB/Policies/Pages/AAHA-AVMA-Feline-Preventive-Healthcare-Guidelines.aspx>). Less than half (47.2%) of the respondents claim that they bring their cats in for routine/preventive care at least once a year (or more) (S2_FIG 20). This is slightly higher than the 45% who reported the same in 2011 (Figure 2-19, page 83, 2012 *PDS*). And it is a far lower rate of compliance compared to dogs. Recall, 79% of dog owners brought their dogs in at least once a year for routine care. More than one-tenth (12%) claim to have brought their cats in every other year. But a whopping 36% say they never get routine/preventive care for their cats. (Only 12% of dog owners said the same.) The only good news is that the share of cat owners who visit twice or more per year was up to 13% in 2016, which is more than double the rate (5.7%) in 2011.

S2_FIG 20. ROUTINE/PREVENTIVE CARE FREQUENCY FOR CATS



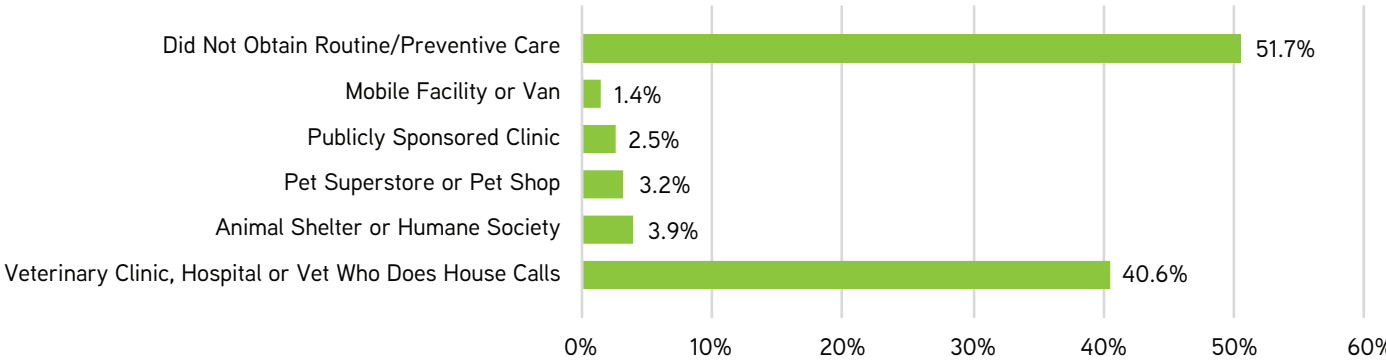
The 2017 PDS also asked directly how many times owners took their cats somewhere for routine/preventive care in 2016. Nearly half (48%) of all cat-owning households said they obtained routine/preventive care for their cat(s) in 2016 (S2_FIG 21). This confirms the 47% who said they got it at least once a year in S2_FIG 20.

This 48% compliance rate counts all routine/preventive feline care visits to anywhere, not just to veterinary clinics or hospitals. Indeed, just 40.6% of the households who owned a cat at any time in 2016 patronized a veterinary clinic, hospital or veterinarian who does house calls for routine care (S2_FIG 21). 3.9% received care for their cat(s) from a shelter or humane society for routine/preventive care, and 3.2% from a pet superstore or pet shop. 2.5% received care from a publicly sponsored clinic, and 1.4% patronized a mobile facility or van.

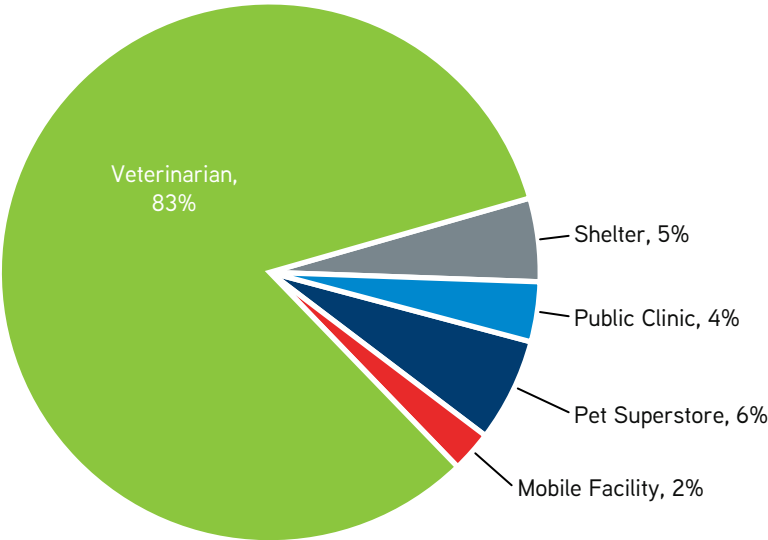
Most cat-owning households patronized more than one type of routine care provider, so the sum of these percentages would double-count those households. The properly calculated portion who did not obtain routine care anywhere was 51.7%

83% of all routine/preventive care visits were to veterinary clinics, hospitals or veterinarian who does house calls (S2_FIG 22).

S2_FIG 21. PERCENT OF CAT-OWNING HOUSEHOLDS TAKING THEIR CATS SOMEWHERE FOR ROUTINE CARE (OR NOWHERE), 2016



S2_FIG 22. PERCENT OF ROUTINE/PREVENTIVE CARE VISITS FOR CATS BY PROVIDER TYPE, 2016



As suggested above, many cat owners take their cats to a variety of providers for routine/preventive care. However, the clear majority (93%) of the cat-owning households who patronized veterinary clinics or hospitals did not go anywhere else (S2_TAB 22). But 2% also got shelter care, 1% also got routine/preventive care at a publicly sponsored clinic, 2% also obtained routine/preventive care at a pet superstore or pet shop, and 1% also obtained routine care at a mobile facility or van. In contrast, among the 6% of households who obtained routine/preventive care at pet superstores, 56% did not go anywhere, while 24% also visited veterinary clinics or hospitals for routine/preventive care, 7% also visited a mobile clinic and 6% also visited a public clinic.

S2_TAB 22. PERCENT OF HOUSEHOLDS WHO GET ROUTINE CARE FOR THEIR CATS WHO VISIT EACH PROVIDER TYPE, 2016

	Veterinarian	Shelter	Public Clinic	Superstore	Mobile Van
Veterinarian	93%	29%	21%	24%	35%
Shelter	2%	47%	15%	6%	12%
Public Clinic	1%	11%	45%	6%	16%
Pet Superstore	2%	8%	10%	56%	19%
Mobile Van	1%	5%	9%	7%	18%
	100%	100%	100%	100%	100%

Half (51%) of cat owners who patronized veterinary clinics or hospitals for routine care made more than one routine visit in 2016 (S2_TAB 23). Nearly half (49%) made one visit to a veterinarian for routine/preventive care. Almost one-quarter (23%) made three or more routine visits. Households making multiple visits for routine care include households with multiple cats as well as households who bring each cat in more than once a year.

S2_TAB 23. PERCENT OF HOUSEHOLDS WHO MADE ONE OR MORE ROUTINE/PREVENTIVE CARE VISITS TO A VETERINARIAN WITH THEIR CATS IN 2016

Number of Visits in 2016	Households Who Visited a Veterinary Clinic or Hospital for Routine/Preventive Canine Care
One	49%
Two	28%
Three	9%
Four or More	14%

The total amounts paid by cat owners for all routine/preventive care purchased from each provider type divided by the number of visits the households made gives the amount paid per routine visit, by provider type (S2_TAB 24). Note also that some routine/preventive care is provided free of charge (wellness plan visits, perhaps?). The percentages of no-cost routine/preventive care visits cats made to each type of provider are also shown in S2_TAB 24.

S2_TAB 24. AMOUNTS PAID PER FELINE ROUTINE/PREVENTIVE CARE VISIT AND PERCENT OF FREE VISITS, BY PROVIDER TYPE, 2016

	Paid per Visit	Zero-Price Visits
Veterinary Clinic, Hospital or Vet Who Does House Calls	\$109	2%
Shelter or Humane Society	\$61	11%
Publicly Sponsored Clinic	\$71	9%
Pet Superstore	\$75	5%
Mobile Facility	\$72	6%

The Guidelines for feline routine/preventive care states that every cat should receive the following services, tests and products at least annually:

- 1) Comprehensive physical examination
- 2) Dental care assessment
- 3) Behavior assessment
- 4) Pain assessment
- 5) Body condition scoring
 - a. Nutrition assessment
 - b. Diet plan
- 6) Infectious and zoonotic disease assessment and control
- 7) Parasite prevention and control
 - a. Annual heartworm test
 - b. Annual parasite tests
 - c. Annual retrovirus test
 - d. Year-round parasite control
- 8) Vaccinations against:
 - a. Rabies virus
 - b. Feline panleukopenia virus
 - c. Feline herpesvirus-1
 - d. Calicivirus

Assuming that veterinary clinics and hospitals provided every recommended service, test, vaccine and product on the list above to each cat they saw for routine care, these data show that cat owners paid about \$110 for a recommended routine care visit. That is the amount paid per visit in 2016 for routine care at a veterinary clinic or hospital, including the 2% of routine care visits to a veterinarian that were provided for no charge (S2_TAB 24, above).

S2_TAB 25. FELINE STERILIZATION: PERCENT AND NUMBERS OF CATS SPAYED AND NEUTERED, WHERE, PAID PER CAT, PERCENT FREE, AND AVERAGE NON-ZERO PRICE PAID, 2016 DONE

	Percent of Cats Owned Anytime	Number of Cats	Veterinary Clinic or Hospital	Shelter or Humane Society	Publicly Sponsored Clinic
Spayed	5%	2,848,841	59%	26%	15%
Paid per Cat			\$64	\$36	\$31
Percent Free			28%	32%	22%
Average Non-Zero Price Paid			\$95	\$43	\$49
Neutered	4%	2,508,569	55%	19%	26%
Paid per Cat			\$54	\$39	\$37
Percent Free			29%	34%	21%
Average Non-Zero Price Paid			\$75	\$43	\$54

The other types of routine/preventive care providers apparently sold subsets of the full set of recommended services and products. And these subsets were purchased for the lower amounts shown as paid per visit to the other provider types. Finally, note also that shelters or humane societies provided the largest portion (11%) of the routine/preventive care visits obtained from them for zero prices paid. And publicly sponsored clinics provided 9% of the routine care visits cat owners made to them in 2016 for no pay.

The half of all cat-owning households who did not visit a veterinary clinic or hospital for routine/preventive care in 2016—including the 8% who obtained routine care from other types of providers—were invited to report “how much do you think your local veterinarians charge for a routine/preventive care visit?” The average response was \$117. On average, cat owners also have accurate knowledge of the price of the service bundle they chose not to buy. But not everyone: Just like among the dog-owning households who did not patronize veterinary clinics or hospitals, the highest estimated price was \$1,000, and the lowest was \$10.

About 9% of the cats owned at any time during the year were sterilized during 2016; 5%, which was 2.8 million cats, were spayed (S2_TAB 25); 4%, or about 2.5 million cats, were neutered. More than half (59%) of the spays were performed at a veterinary clinic or hospital. More than a quarter (26%) of the spays were obtained from an animal shelter or humane society, and about 15% were performed by a publicly sponsored clinic.

The amount paid per spay was estimated by dividing the total paid to each provider type by the total number of cats spayed at each provider type. That was \$64 per spayed cat at a veterinary clinic or hospital, \$36 per spayed cat at a shelter or humane society clinic, and \$31 at a publicly sponsored clinic. Note, that rate includes the cats spayed for no charge. More than a quarter (28%) of the cats spayed at a veterinary clinic were reportedly provided for a zero price, while 32% of the spays obtained at shelters and 22% from publicly sponsored clinics were provided free of charge. The average non-zero price paid to a veterinary clinic for a feline spay was \$95, and the maximum reported price was \$700. At a shelter or humane society clinic the average non-zero price paid was \$43, and the maximum reported price was \$300. At publicly sponsored clinics the average non-zero price paid was \$49, and the maximum reported price was \$200.

More than half (55%) of the feline neuters were also performed at a veterinary clinic or hospital. Almost one-fifth (19%) were performed at an animal shelter or humane society and about one-quarter (26%) were performed at a publicly sponsored clinic.

The average reported amount paid per neutered cat was \$54 at a veterinary clinic or hospital, \$39 at a shelter or humane society clinic and \$37 at a publicly sponsored clinic. These rates also include the cats neutered for no charge. Nearly one-third (29%) of the cats neutered at a veterinary clinic were reportedly done for a zero price, while 34% of the neuters obtained at shelters and 21% of those at publicly sponsored clinics were provided free of charge. The average non-zero price paid to a veterinary clinic to neuter a cat was \$75, and the maximum reported price was \$500. At a shelter or humane society clinic the average non-zero price paid was \$43, and the maximum reported price was \$420. At publicly sponsored clinics the average non-zero price paid was \$54, and the maximum reported price was \$320 (S2_TAB 25).

Approximately 1% of the cats owned at some time during 2016 were euthanized. This is an estimated 685,000 cats. The respondents to the 2017 PDS were asked for the first time about the average price they paid for euthanasia. The amount paid per euthanized cat is calculated as the total sum reported paid divided by the total number of cats euthanized. The price paid per cat euthanized was \$135 in 2016 (S2_TAB 26), however, 7% percent of the respondents paid no fee for the euthanasia. Excluding those who received the euthanasia free, the average non-zero price paid was \$151.

S2_TAB 26. EUTHANASIA: PERCENT AND NUMBER OF CATS, AMOUNT PAID PER CAT, PERCENT FREE, AND AVERAGE NON-ZERO PRICE PAID PER CAT IN 2016

	Percent of Cats Owned Anytime in 2016	Number of Cats	Paid per Cat	% No Charge	Average Non-Zero Price Paid
Euthanasia	1%	685,409	\$135	7%	\$151

In addition to routine/preventive care and once-in-a-lifetime care like sterilization or euthanasia, cat owners also obtain care for many other kinds of feline health issues: preventable diseases, accidents, chronic illnesses and so on. For the first time, respondents to the 2017 PDS were asked if their cats “received preventive care or treatment for [three types of parasites, as well as] weight, obesity or nutrition issues.” If they replied yes, they were further asked who gave the preventive care or treated their cats.

More than one-third (34.7%) of households with cats at any time in 2016—or about 11.6 million households—reported preventing or treating fleas, ticks or the diseases caused by them (S2_TAB 27, S2_FIG 23). Among those who prevented or treated those pests, three-quarters (75%) gave the care “at home;” 15% got the care from “the veterinarian;” another 9% said “mix of both.” And 1% prevented or treated the fleas or tick problems some other way.

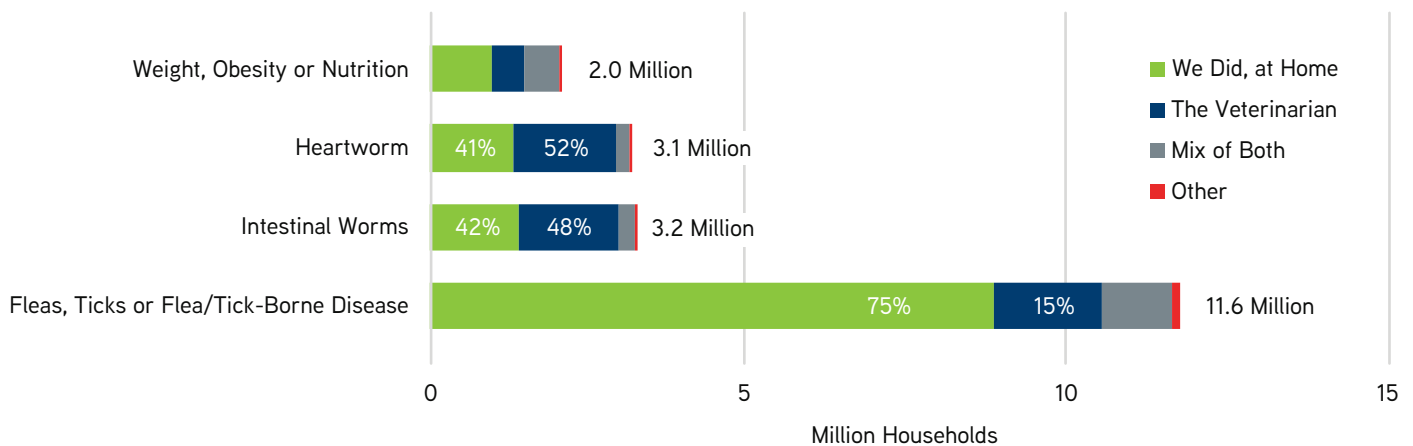
Only 10.1% of cat-owning respondents to the 2012 PDS reported purchasing “deworming” care or products. The 2017 PDS data show that although a similar percentage of cat-owning households prevented and/or treated heartworm (9.3%) and 9.6% also treated intestinal worms (S2_TAB 27). Among the 3.1 million households preventing or treating feline heartworm, 41% gave the care themselves, “at home.” More than half (52%) reported they got the care from a veterinarian, and 6% reported that the care was provided by a mix of both themselves and the veterinarian.

Prior pet ownership and demographics surveys asked pet owners to indicate which veterinary services and products they purchased for their cats. The 2017 PDS asked cat owners to indicate the health problems or challenges they faced in 2016, and whether they purchased services or products from a veterinarian to address those challenges. The list of cat ailments was tailored to cats. Cats and dogs do, however, face a number of similar issues, such as diarrhea, UTIs, dental disease, etc., so there are ailments in common on both lists.

S2_TAB 27. PERCENT OF HOUSEHOLDS WHOSE CATS RECEIVED PREVENTIVE CARE OR TREATMENT FOR PARASITES OR WEIGHT ISSUES, AND WHO PROVIDED THE CARE, 2016

	Households Who Owned Cats with the Issue	Who Gave Preventive Care or Treated the Cats?			
		We Did, at Home	The Veterinarian	Mix of Both	Other
Fleas, Ticks, Flea or Tick-Borne Disease	34.7%	75.0%	15.0%	9.0%	1.0%
Intestinal Worms	9.6%	42.0%	48.0%	8.0%	2.0%
Heartworm	9.3%	41.0%	52.0%	6.0%	1.0%
Weight, Obesity or Nutrition Issue	6.1%	46.0%	26.0%	27.0%	2.0%

S2_FIG 23. NUMBERS OF CAT-OWNING HOUSEHOLDS AND PERCENT BY PROVIDER TYPE PREVENTING OR TREATING PARASITES AND WEIGHT ISSUES, 2016



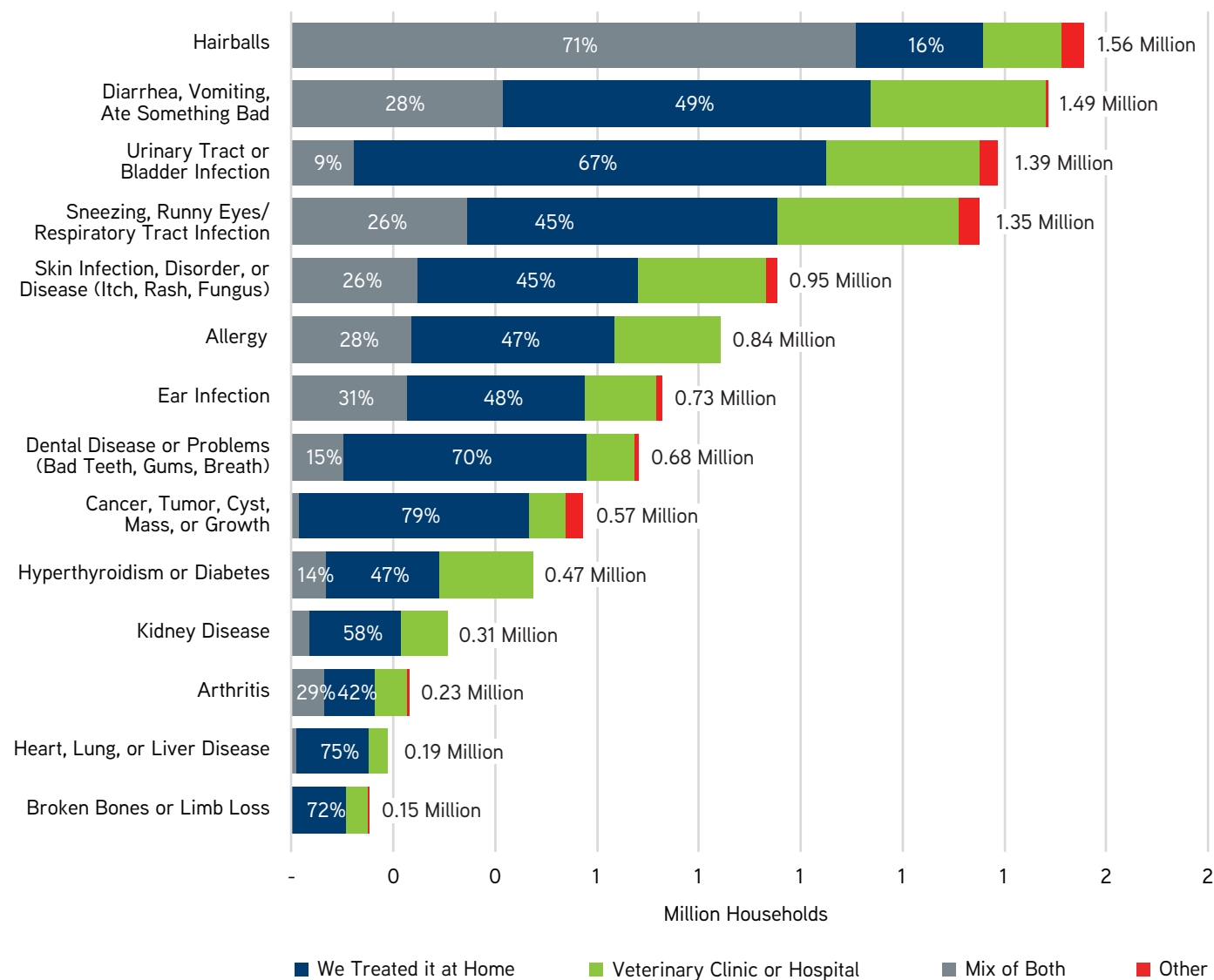
Hairballs, diarrhea/vomiting or “ate something bad,” UTIs and the “sneezes” were the health issues most commonly reported by cat owners in 2016 (S2_TAB 28, S2_FIG 24). About 1.56 million households—4.7% of the households who owned a cat at some time in 2016—had at least one cat with hairball issues (S2_TAB 28). While three-quarters of these cat owners (71%) said they dealt with hairballs “at home,” 16% sought care at a veterinary clinic or hospital and another 10% worked with a veterinarian to treat their cats’ hairballs.

S2_TAB 28. PERCENT OF CAT-OWNING HOUSEHOLDS WITH EACH ISSUE, AND WHO TREATED THE CAT BY CARE-GIVER TYPE, 2016

	Who Treated the Cat for the Issue?				
	HHs with Cats with Issue	We Treated it at Home	Veterinary Clinic or Hospital	Mix of Both	Other
Broken Bones or Limb Loss	0.5%	--	72.0%	27.0%	2.0%
Heart, Lung or Liver Disease	0.6%	5.0%	75.0%	20.0%	-
Arthritis	0.7%	29.0%	42.0%	28.0%	2.0%
Kidney Disease	0.9%	12.0%	58.0%	30.0%	-
Hyperthyroidism or Diabetes	1.4%	14.0%	47.0%	39.0%	-
Cancer, Tumor, Cyst, Mass, ...	1.7%	2.0%	79.0%	13.0%	6.0%
Dental Disease or Problems (Bad Teeth, Gums, Breath)	2.0%	15.0%	70.0%	14.0%	1.0%
Ear Infection	2.2%	31.0%	48.0%	19.0%	2.0%
Allergy	2.5%	28.0%	47.0%	25.0%	-
Skin Infection, Disorder or Disease (Itch, Rash, Fungus)	2.9%	26.0%	45.0%	26.0%	2.2%
Sneezing, Runny Eyes, Respiratory Tract Infection	4.0%	26.0%	45.0%	26.0%	3.0%
Urinary Tract or Bladder Infection	4.1%	9.0%	67.0%	22.0%	2.0%
Diarrhea, Vomiting, Ate Something Bad	4.4%	28.0%	49.0%	23.0%	0.3%
Hairballs	4.7%	71.0%	16.0%	10.0%	3.0%

The feline health challenges that households relied primarily on veterinarians to treat were urinary tract or bladder infections (S2_FIG 24, S2_TAB 28). Two-thirds (67%) of the 4% of cat-owning households so afflicted bring their cats to “The veterinarian,” which is 927,000 veterinary visits, even if they only went once in the year for it. The second most common reason for unplanned visits to the veterinarian was to deal with “diarrhea, vomiting, or ‘ate something bad’.” For that, almost half of the 1.5 million afflicted cat-owning households go to “The veterinarian,” which accounts for at least 608,000 visits.

S2_FIG 24. NUMBERS OF HOUSEHOLDS WITH FELINE HEALTH ISSUES AND THE PERCENTAGES TREATING THE ISSUE BY CARE-GIVER TYPE, 2016

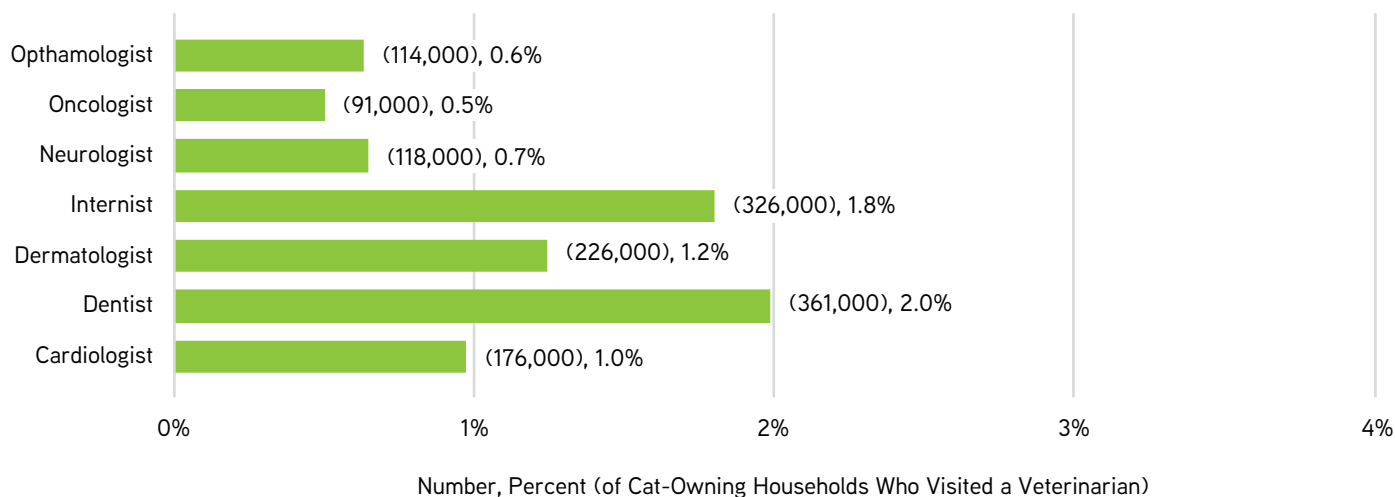


Like dog owners, cat owners are least likely to treat cancers or major organ diseases by themselves, and most likely (79%; 75%) to rely on veterinary care. Only 2% said they treated their cats' cancers or tumors themselves, at home.

Small percentages of "other" care was also reported for many cat health issues. No cat owners reported seeking "other" treatment for four issues: heart, lung or liver diseases, kidney disease, hyperthyroidism and diabetes, and allergies. Note that when combining "sneezes" and allergies for cats and comparing to allergies for dogs, similar portions (7%) of both cat- and dog-owning households were affected.

A smaller share of cats (2%) reportedly had dental issues compared to the share of dogs (6%). But 70% of cat owners reported seeking veterinary care for their cats' dental issues, compared to 59% of dog owners. Thus, about half a million cat owners brought their cats to a veterinary clinic or hospital for dental care, compared to 1.65 million dog owners. Some cat owners also sought care from veterinary specialists, such as dentists. We report these data next.

S2_FIG 25. PERCENTAGES OF CAT OWNERS WHO VISITED A VET IN 2016, WHOSE CATS WERE SEEN BY VETERINARY SPECIALISTS, 2016

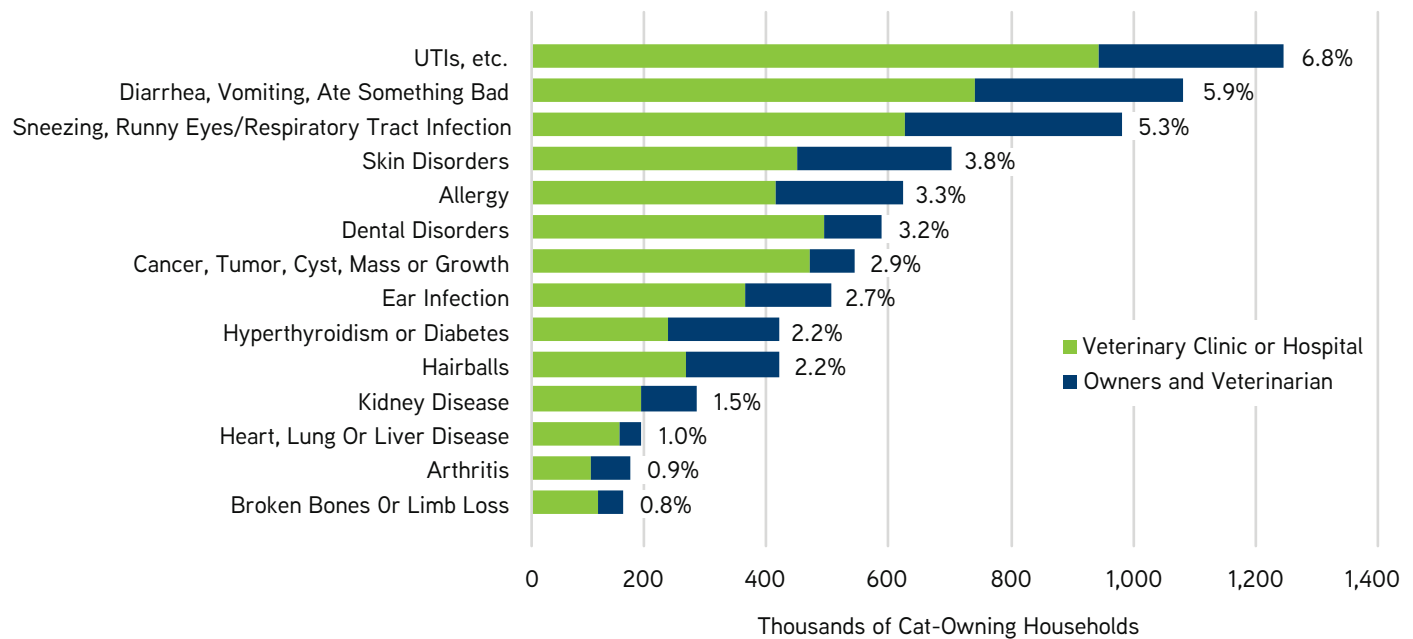


S2_FIG 25 shows that dentists were the most sought veterinary specialist, visited by 2% of the cat-owning households who visited veterinarians in 2016. Internists were the second most visited veterinary specialist, at 1.8%. Note that the responses to these questions reinforce responses to the previous questions about who treated cat health issues. A summary of the percentages who reported visiting a veterinarian or a veterinary specialist, by type of service that avoids double-counting, follows.

The questions about veterinary care use in the 2017 PDS are posed from the cat owners' perspective. For what reasons did cat owners bring their cats to a veterinarian? We have already shown that two-thirds of the visits are for routine/preventive care. The data summarized in S2_TAB 28 that show cat health issue prevalence can also be reported in terms of the percentages of demands for veterinary services: 6.8% of the cat owners who visited a veterinarian at least once in 2016 went for care for UTIs or bladder infections (S2_FIG 26). The next most common reason (5.9%) sought veterinary care to address their cats' diarrhea/vomiting or "ate something bad," and 5.3% of veterinary clients with cats sought care for their cats' "sneezes."

As explained above, previous PDS surveys asked respondents to indicate if they had obtained any item on a list of 19 services or products from a veterinarian at any time during the previous year for any of their cats. The more detailed information summarized above, plus a few more legacy-style questions, were abstracted into a format for comparison with the legacy question in previous PDSs. S2_TAB 29 presents the comparable 2016 and 2011 data. In 2011, for example, 19% of the households who visited a veterinarian with their cat(s) at some time in 2011 reported purchasing flea or tick products. In 2016, a slightly higher 22.2% reported purchasing flea or tick products from a veterinarian. Because of the differences between the 2011 and 2016 survey questions, however, not all of the data summarized in S2_TAB 29 are directly comparable.

S2_FIG 26. PERCENTAGES OF VETERINARY CLIENTS SEEKING CARE FROM VETERINARIANS FOR EACH CAT HEALTH ISSUE, 2016

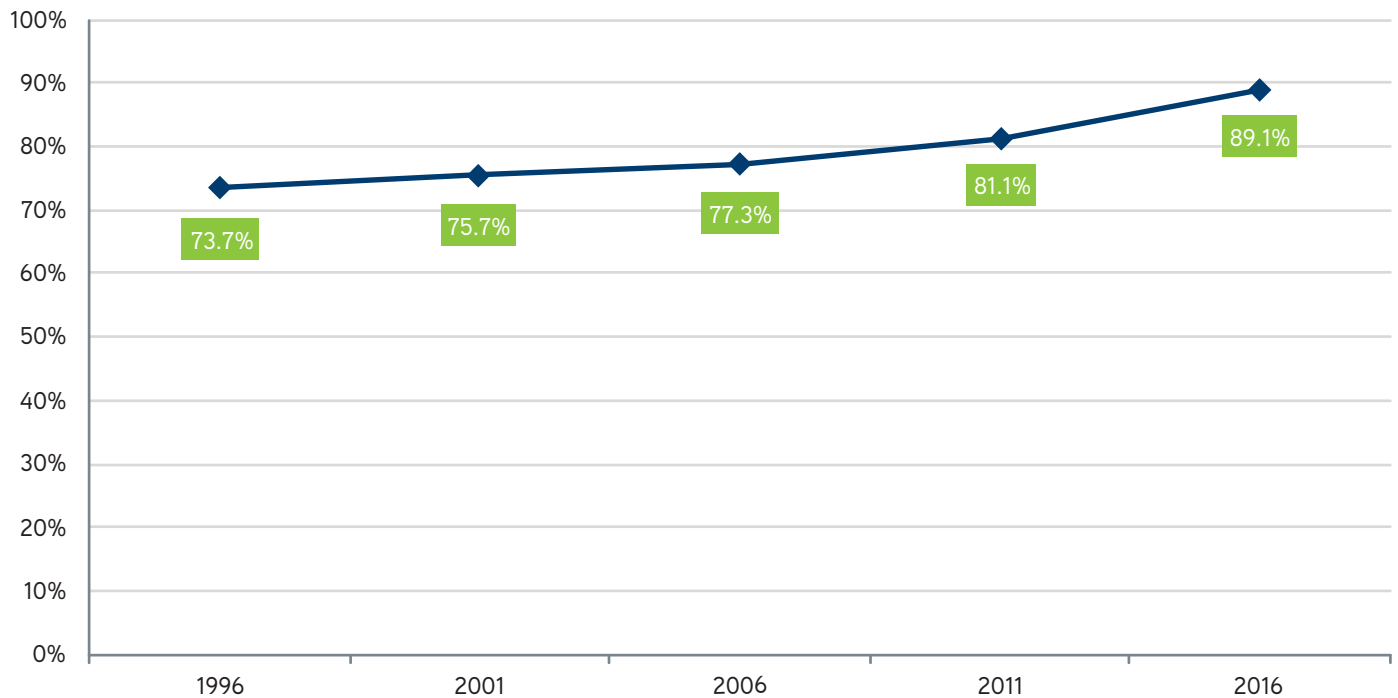


S2_TAB 29. VETERINARY SERVICES/PRODUCTS OBTAINED FOR CATS IN 2011 AND 2016

	2011	2016
	Percent of Veterinary Clients Who Purchased the Service or Product From a Veterinary Clinic or Hospital	
Routine Check Up (Includes Exam, Vaccinations, etc.)	N/A	74.8%
Vaccinations	75.5%	N/A
Blood or Lab Tests	31.1%	24.5%
OTC Medications	30.6% *	22.3%
Flea or Tick Products	19.0%	22.2%
Spay or Neuter	13.1%	10.9%
Food	9.9%	10.0%
Heartworm or Intestinal Worm Care	10.1%	14.7%
Emergency Care	15.2%	8.2%
X-Rays	8.6%	7.2%
Grooming	5.0%	5.5%
Surgery (Other than Spay/Neuter)	5.2%	4.0%
Dental Care or Products	9.1%	7.5%
Boarding	4.0%	1.6%
Alternative Therapy	0.9%	0.8%
Behavioral Counseling or Training	1.2%	0.7%

*2011 "Drugs or Medications" Included Prescription Drugs, 2016 Includes OTC Medications Only

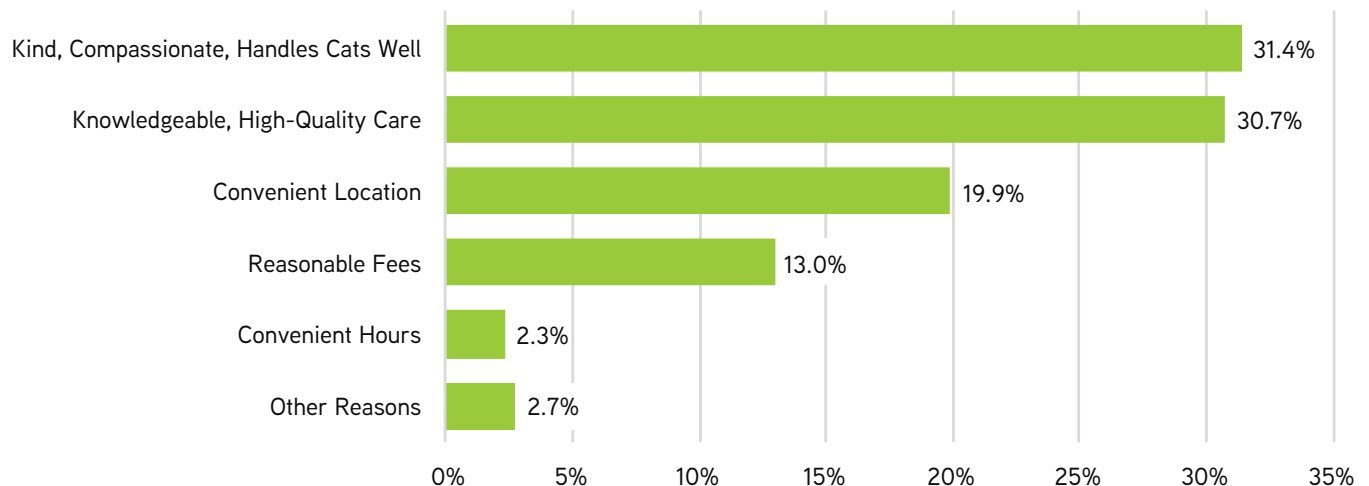
S2_FIG 27. PERCENT OF CAT-OWNING VETERINARY CLIENTS WITH A “REGULAR” VETERINARIAN, 1991–2016



The majority (89%) of the households who visited a veterinarian in 2016 with a cat had a “regular veterinarian” (S2_FIG 27).

Why are almost nine of 10 cat-owning veterinary clients loyal to their regular veterinarian? The most often (31.4%) cited reason why they go to their regular veterinarian was because their regular veterinarian is “kind, compassionate, handles cats well.” (S2_FIG 28). Nearly tied, the second most often chosen reason (30.7%) was because their regular veterinarian provides “knowledgeable, high-quality care” (neither of these two most important reasons for staying with one’s regular veterinarian were answer options in the 2012 PDS or earlier).

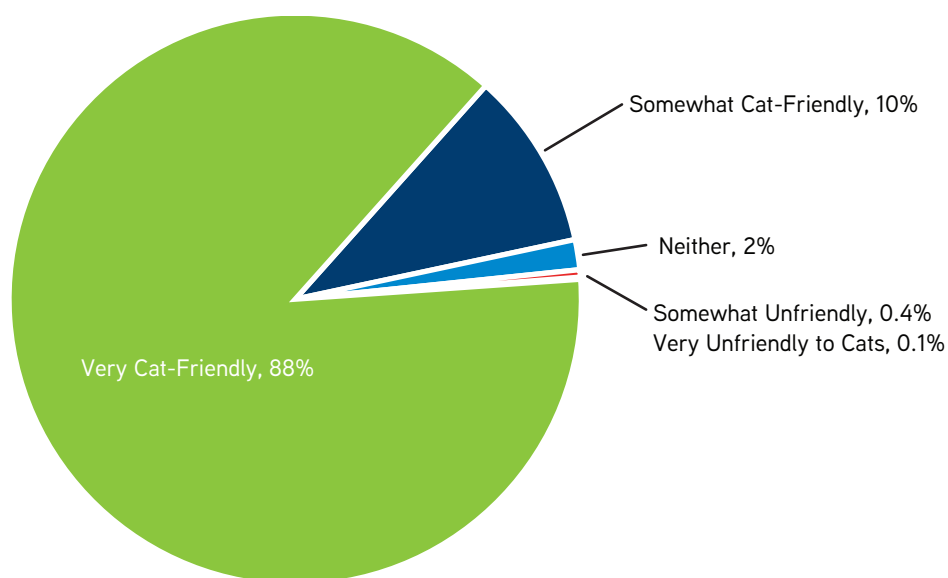
S2_FIG 28. MAIN REASON CAT OWNERS GO TO THEIR “REGULAR” VETERINARIAN, 2016



One-fifth (20%) replied that the main reason they go to their regular veterinarian is because the location is convenient. This matches closely to the 19.3% who cited that same main reason, for the 2012 PDS.

For the first time, 2017 PDS respondents were invited to rate the “cat-friendliness” of their regular veterinarian. Most respondents, 88%, indicated that their regular veterinarian is “very cat-friendly,” (S2_FIG 29), and another 10% indicated their regular veterinarian is “somewhat cat-friendly.” Cat-friendliness may not be the only most important reason for keeping one’s regular veterinarian (recall S2_FIG 28), but the magnitude of “cat-friendliness” is impressive. Future analyses of the 2017 PDS data can test the hypothesis that the cat owners whose regular veterinarian is not “very cat-friendly” is associated with those pet owners who also own dogs or other pets.

S2_FIG 29. HOW “CAT-FRIENDLY” IS YOUR REGULAR VETERINARIAN?



The 18% percent of cat-owning households who brought their cat to a veterinarian at some time in 2016 but who did not see their “regular veterinarian” at their most recent visit were asked why they chose that veterinarian. Among those who had a “regular vet” but most recently saw a different veterinarian, the most cited reason was “reasonable fees” (23.3%), followed by “convenient location” (18.6%), and then “recommendation or reputation for high-quality care” (12.6%) (S2_TAB 30). Among those who did not have a regular veterinarian, “reasonable fees” (28.6%), “convenient location” (25.9%) and “recommendation or reputation for high-quality care” (17%) were most often cited.

S2_TAB 30. REASON FOR CHOICE OF VETERINARIAN BY CAT-OWNING HOUSEHOLDS FOR MOST RECENT VISIT TO A VETERINARIAN THAT WAS NOT THEIR “REGULAR VET,” 2016

	Have a “Regular Veterinarian”	Don’t Have a “Regular Veterinarian”
Reasonable Fees	23.3%	28.6%
Convenient Location	18.6%	25.9%
Convenient Hours	9.9%	3.8%
Recommendation or Reputation for High-Quality Care	12.6%	17.0%
Internet or Website	2.2%	3.7%
Print Advertisement (Not Internet)	2.2%	0.4%
Their Sign from Street	0.8%	1.2%
Yellow Pages	1.5%	0.8%
Specialist	7.1%	0.5%

The pattern in household spending at the veterinarian by cat owners has not changed much from 2011. Just over half (53%) of all cat-owning households spent something at a veterinary clinic or hospital in both 2011 and 2016 (S2_TAB 31). Inflation explains the rise in “per-cat” spending from \$90 in 2011 to \$98 in 2016 (2016 consumer prices were, on average, 108.7% of what they were in 2011).

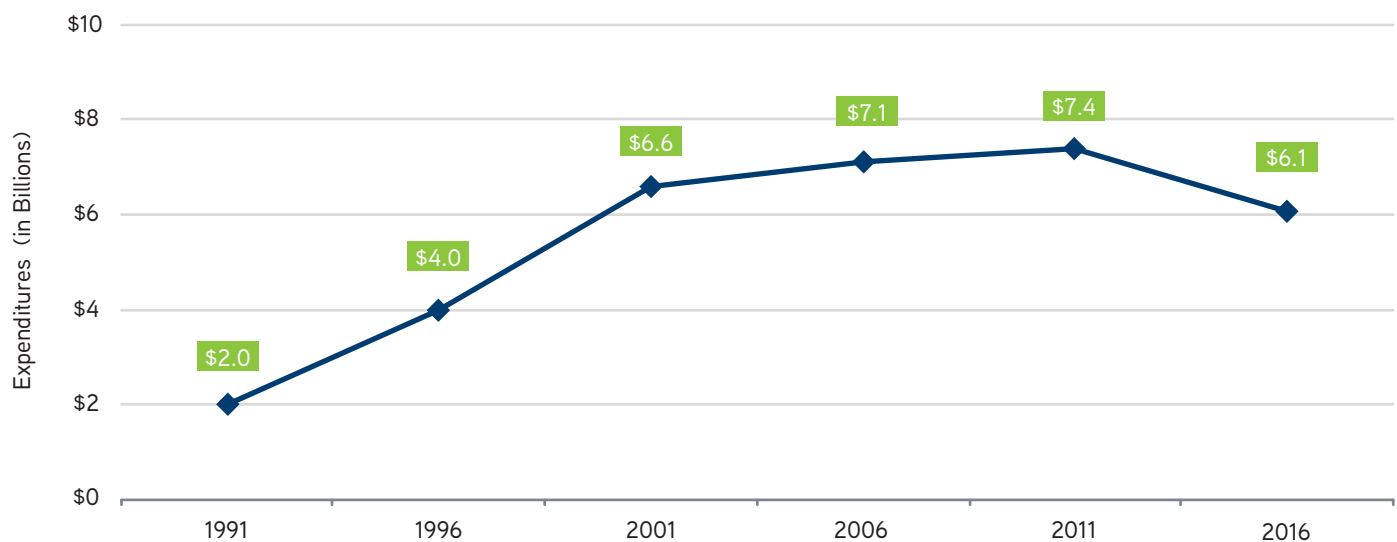
The expenditure per cat-owning household multiplied by the total number of households who owned cats anytime in 2016 gives the estimated total expenditures by cat-owning households at the veterinarian (S2_FIG 30). More than \$6.1 billion was spent on cat care at the veterinarian in 2016. That is 18% lower than the total expenditure estimated for 2011.

Because the per-household and per-cat spending rose since 2011 by the rate of inflation (S2_TAB 31), this apparent decline is driven mainly by the reduction in the estimated numbers of cat-owning households and cats per household. Sampling biases in 2011 that may have led to the overestimation of the number of cat-owning households (discussed earlier, and, see Appendix A) may account for some of the apparent decline. The data do not suggest a decline in the competitiveness of veterinarians compared to other providers of feline health care.

S2_TAB 31. DISTRIBUTION OF CAT-OWNING HOUSEHOLDS BY VETERINARY EXPENDITURES, PER HOUSEHOLD, PER VISIT, AND PER CAT, 1996–2016

	1996	2001	2006	2011	2016
No Expenditure	33.2%	37.0%	39.2%	46.1%	46.9%
Some Expenditure	66.9%	63.1%	60.8%	53.9%	53.1%
Less than \$50	13.4%	8.8%	5.4%	4.4%	3.1%
\$50 to \$99	17.9%	14.7%	10.9%	10.2%	9.3%
\$100 to \$199	17.2%	15.7%	15.3%	13.3%	13.4%
\$200 to \$499	14.4%	16.3%	19.1%	15.4%	16.9%
\$500 to \$999	2.9%	5.2%	6.2%	6.5%	6.5%
\$1,000 or More	1.1%	2.4%	3.9%	4.1%	3.8%
Expenditure/Cat-Owning Household	\$147	\$160	\$190	\$191	\$182
Expenditure/Visit	\$67	\$93	\$112	\$122	\$141
Expenditure/All Cats Owned Anytime	\$81	\$85	\$81	\$90	\$98
Expenditure/Vet Client Cat-Owning Household					\$335
Expenditure/Cat in Vet Client Households					\$177

S2_FIG 30. TOTAL VETERINARY EXPENDITURES BY CAT-OWNING HOUSEHOLDS, 1991–2016

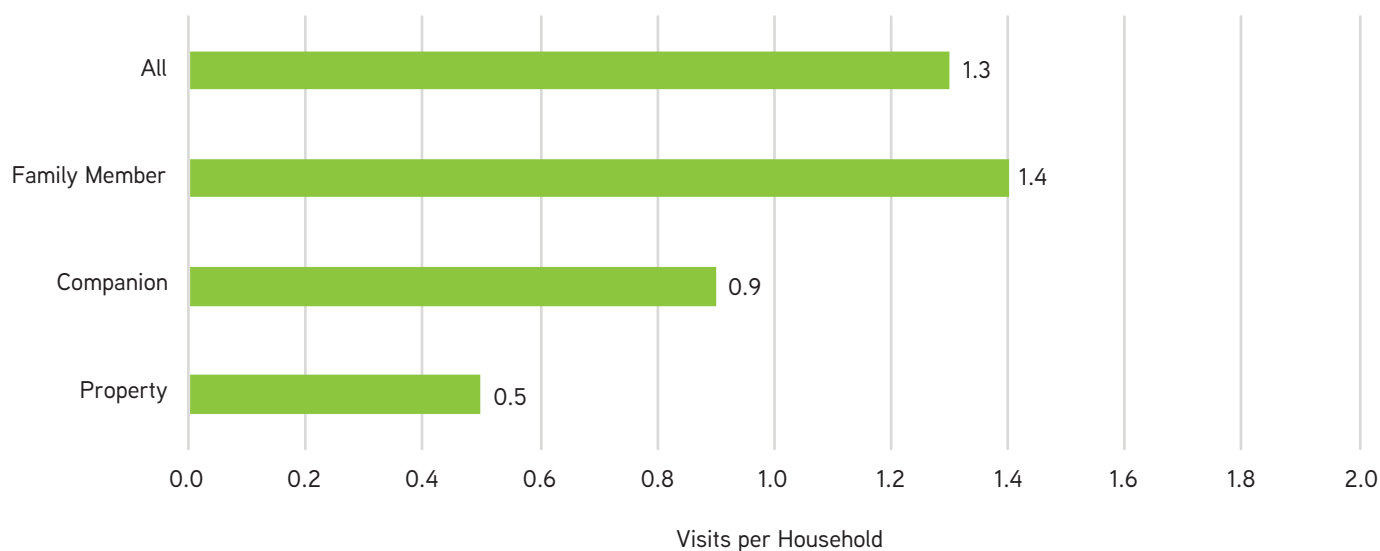


S2_TAB 32. CAT OWNERS' VETERINARY EXPENDITURES BY HUMAN-ANIMAL BOND AND PER HOUSEHOLD, 2016

	We Consider Our Cats to Be:		
	Family Member	Companion	Property
No Expenditures	43.1%	56.5%	76.0%
Less than \$50	3.0%	3.2%	3.0%
\$50 to \$99	9.8%	8.5%	3.4%
\$100 to \$199	13.8%	12.9%	8.5%
\$200 to \$499	18.8%	12.0%	4.6%
\$500 to \$999	7.3%	4.4%	2.7%
\$1,000 or More	4.3%	2.5%	1.9%
	100.0%	100.0%	100.0%
Expenditures per Household	\$199	\$134	\$72

The amounts spent at the veterinarian by cat owners continue to correlate positively with the reported human-animal bond (S2_TAB 32). Less than one-quarter (24%) of the households who consider their cats to be “property under their care” took their cats to a veterinarian in 2016, while 57% of those who consider their cats to be “a member of our family” did. And the expenditure per household who considered their cats to be “family” at \$199, was three times higher than the \$72 expenditure per household among those who consider their cats to be property under their care.

Expenditures are also higher by households who feel their cats are family members, because they own more cats and make more visits, 1.4 visits per household compared to 0.9 among households who feel their cats are “companions” and 0.5 visits per household among those who feel their cats are “property under their care” (S2_FIG 31).

S2_FIG 31. VETERINARY VISITS PER CAT-OWNING HOUSEHOLDS BY HUMAN-ANIMAL BOND

Veterinary visit frequency by cat-owning households does not vary significantly by race, and it varies only slightly by ethnicity (S2_TAB 33). All races of cat-owning households made about 1.3 visits with cats to a veterinarian in 2016. Hispanic/Latino households (of any race) made fewer, about 1.1 visit/year.

S2_TAB 33. VETERINARY VISITS PER CAT-OWNING HOUSEHOLDS BY HUMAN-ANIMAL BOND

	Race/Ethnicity			
	White	African American	Asian/Pacific Islander/ American Indian/ Eskimo	Latino/Hispanic
No Visits	45%	45%	43%	52%
One	22%	21%	26%	18%
Two	16%	19%	16%	15%
Three	6%	6%	5%	7%
Four or More	10%	10%	10%	8%
Visits/Household	1.3	1.3	1.3	1.1

Household income and human-animal bonds are both determinants of spending by cat-owning households at the veterinarian. S2_TAB 34 shows how expenditure at the veterinarian by households in each two-way category, by income and human-animal bond, compare to the global average of \$182/year.

S2_TAB 34. VETERINARY EXPENDITURE PER CAT-OWNING HOUSEHOLD BY HOUSEHOLD INCOME AND HUMAN-ANIMAL BOND, 2016

Income Category	All	We Consider Our Cats to Be:		
		Family	Companions	Property
Less than \$20,000	\$96	\$104	\$68	\$35
\$20,000 to \$34,999	\$122	\$136	\$82	\$51
\$35,000 to 54,999	\$176	\$191	\$127	\$50
\$55,000 to 84,999	\$212	\$227	\$185	\$74
\$85,000 or More	\$262	\$301	\$162	\$123



chapter 5:

BIRD-OWNING HOUSEHOLDS

Approximately 12% of all bird-owning households made at least one visit to a veterinary clinic or hospital with their pet bird in 2016.

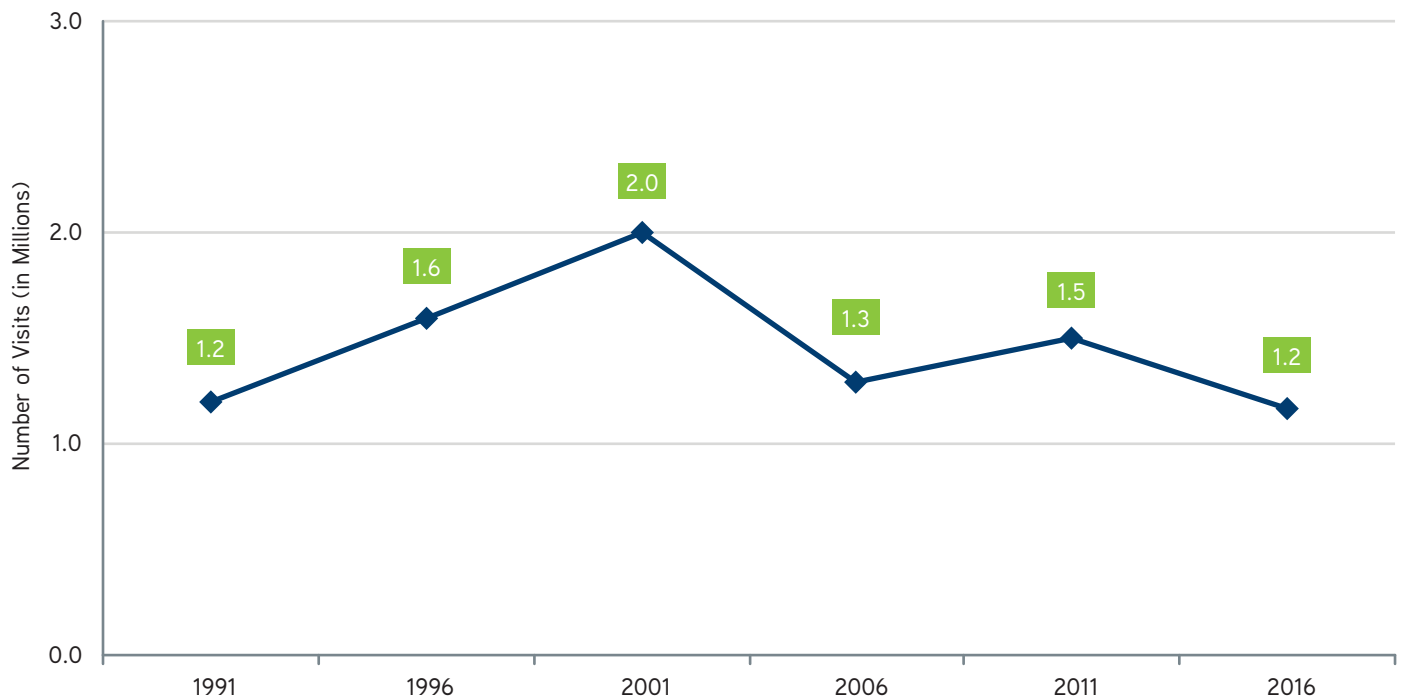
About the same share has visited a veterinarian with their pet birds historically (S2_TAB 35); 5% made one visit, 3% made two visits, 1% made three visits and 2% made four or more visits to a veterinary clinic or hospital with their pet birds in 2016. The total number of visits made, divided by the total number of bird-owning households gives the estimated 0.3 visits per household, and 0.1 visits per bird. That of course reflects the clear majority of bird-owning households (88% of the owning households) who did not take their birds to the veterinarian at all. Among those who did, the household made 2.6 visits/year; and the average number of visits per bird in a household that visits a veterinarian is 1.1/bird/year.

Total visits to the veterinarian are estimated by multiplying the “anytime” pet bird-owning households by the visits per household (0.3). (Equivalently, multiply the number of the pet birds by visits per bird.) This suggests that pet birds and their owners made an estimated 1.2 million visits to veterinary clinics or hospitals in 2016 (S2_FIG 32).

S2_TAB 35. DISTRIBUTION OF BIRD-OWNING HOUSEHOLDS BY NUMBERS OF VISITS TO THE VETERINARIAN, VISITS PER HOUSEHOLD, AND VISITS PER PET BIRD, 1991–2016

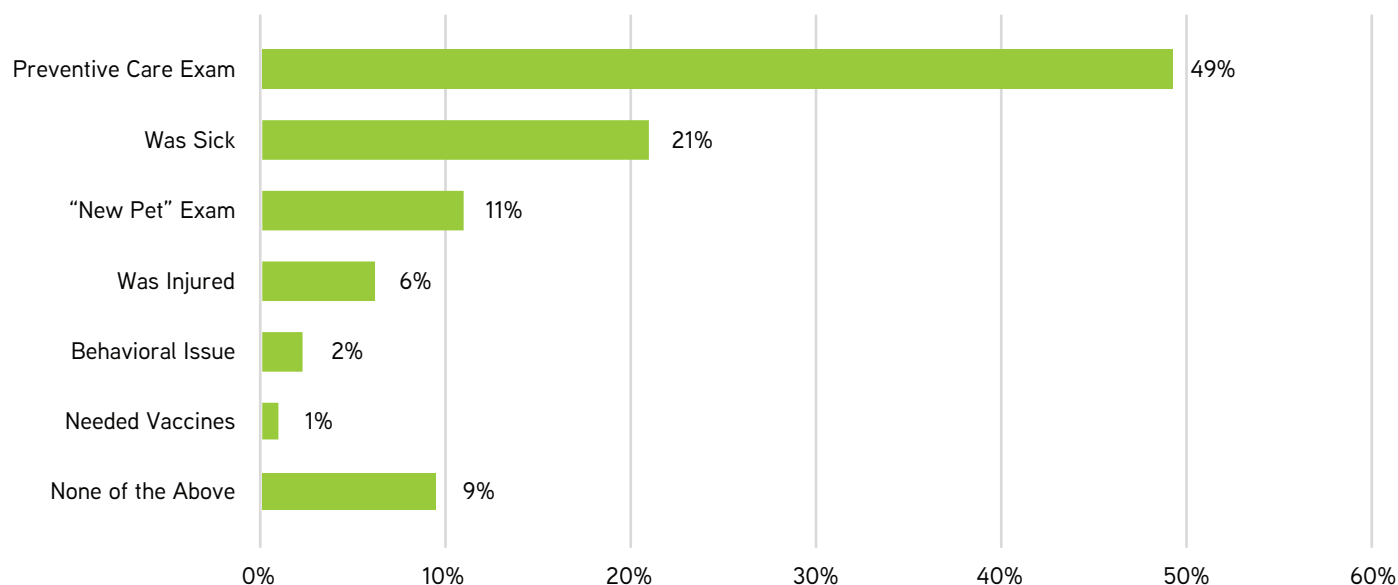
Number of Visits	1991	1996	2001	2006	2011	2016
None	89.4%	89.2%	88.3%	86.1%	87.6%	88.4%
At Least One	10.6%	10.8%	11.7%	13.9%	12.4%	11.6%
One	6.3%	5.8%	6.2%	7.6%	6.0%	5.4%
Two	2.4%	2.6%	2.6%	2.7%	2.4%	3.2%
Three	0.5%	0.8%	1.1%	1.4%	1.2%	0.9%
Four or More	1.2%	1.7%	1.8%	2.2%	2.8%	2.1%
Visits per Household	0.2	0.2	0.3	0.3	0.3	0.3
Visits per Pet Bird	0.1	0.1	0.2	0.1	0.1	0.1
Visits per Bird-Owning Veterinary Client Household						2.6
Visits per Bird in Households Who Visit a Vet						1.1

S2_FIG 32. NUMBER OF VISITS TO VETERINARY CLINICS AND HOSPITALS BY PET BIRD-OWNING HOUSEHOLDS, 1991–2016

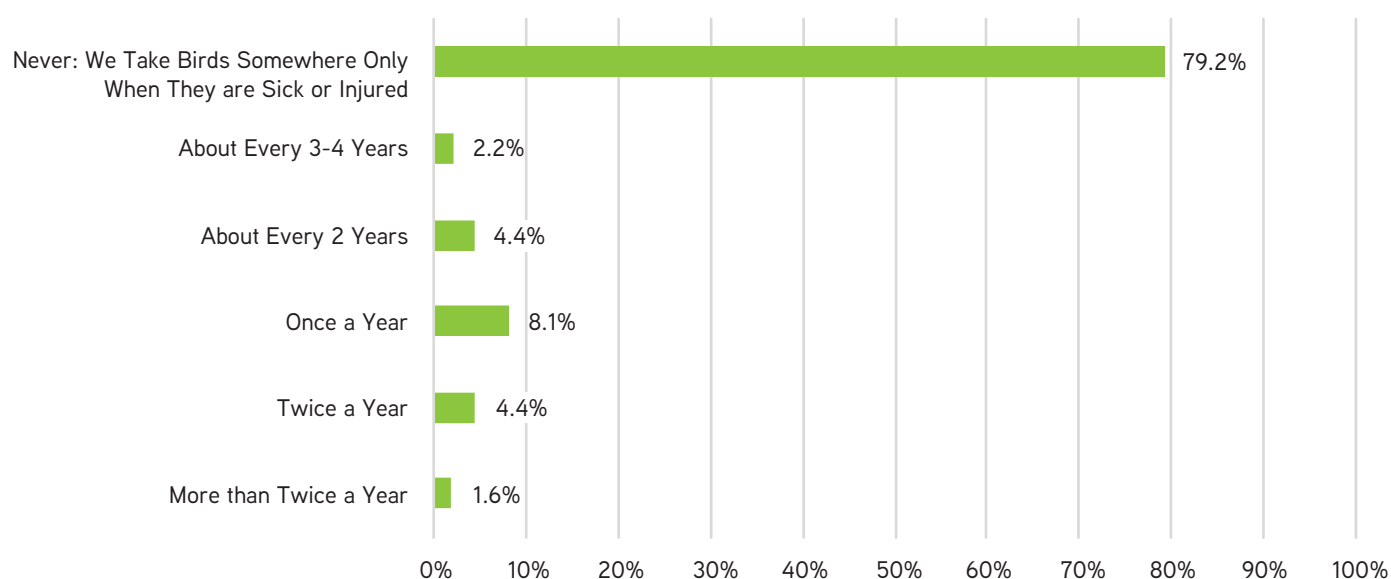


Why did 12% of bird owners take their bird(s) to the veterinarian? For the first time, respondents to the 2017 PDS were asked to indicate the reason for their latest visit to the veterinarian with their pet bird(s). Half of the visits to a veterinary clinic or hospital were for routine or preventive care (S2_FIG 33): 49% said it was for “preventive care exam” and another 1% said it was because their pet bird “needed vaccines.” (These two percentages total 50%); 21% made unscheduled visits because their pet bird got sick (21%) or was injured (6%); 11% of the visits were for a “new pet” exam; 2% said they took their pet bird to the veterinarian because their pet bird developed a “behavioral issue.” The remaining 9% of the visits were for other, unspecified reasons.

S2_FIG 33. REASON FOR BRINGING THE PET BIRD TO THE VETERINARY CLINIC OR HOSPITAL



S2_FIG 34. ROUTINE/PREVENTIVE CARE FREQUENCY FOR PET BIRDS



Answering a related legacy question, one-fifth (21%) of bird-owning respondents claimed that they bring their pet birds in for routine/preventive care at least some time, while 14.1% claim they bring them for routine care at least once/year (S2_FIG 34). That rate is slightly higher than the 19% who reported the same in 2011 (S2_Figure 2-28, page 96, 2012 PDS). And 79% said they never get routine/preventive care for their pet birds.

The implication from these answers that about 14% of pet bird owners brought their birds in for routine care at least once per year (shown in S2_FIG 34), however, slightly exceeds the 12% who reported they visited the veterinarian last year at all (S2_TAB 35). Furthermore, as shown in S2_FIG 33, only 50% of those visits were likely to have been for routine care.

These data are not without error. Bird owners' answers to the legacy question "In 2016, did your bird receive any of the following services or products from a veterinary clinic or hospital?" also show that a higher rate—about three-quarters of the bird-owning households who visited a veterinarian—obtained routine/preventive care: 64.3% obtained a routine check-up plus the 11.1% who obtained vaccinations. (There was no direct question about routine care on prior PDS surveys.) About the same portion of bird owners went to a veterinarian for grooming (25.8%) in 2016 as in 2011 (25.6%).

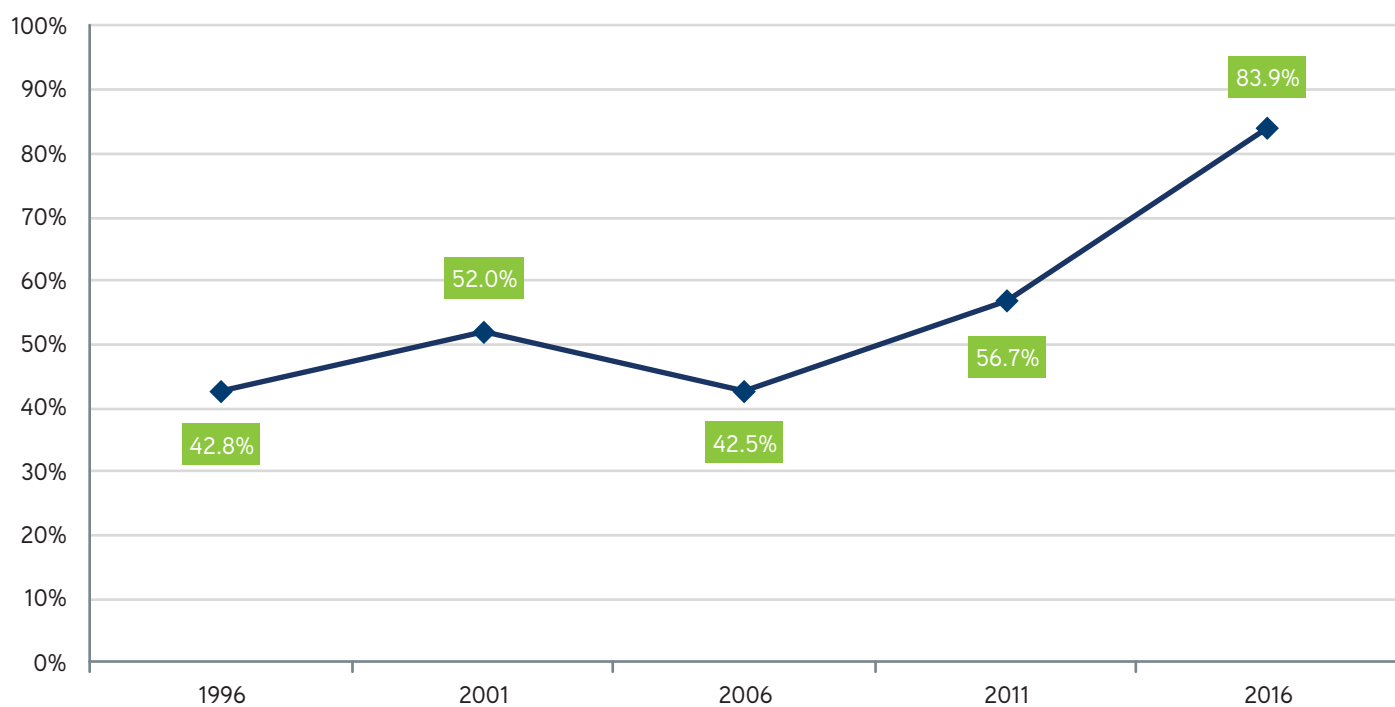
S2_TAB 36. VETERINARY SERVICES/PRODUCTS OBTAINED FOR PET BIRDS IN 2011 AND 2016

	% of Bird Owners Who Visited a Veterinarian Obtaining the Service	
	2011	2016
Physical Exams	86.3%	N/A
Routine Check Up/Preventive Care	N/A	64.3%
Vaccinations	8.9%	11.1%
Grooming	25.6%	25.8%
Blood or Lab Tests	26.5%	16.1%
Emergency Care	17.7%	14.3%
Parasite Prevention or Treatment*	2.8%	9.7%
Prescription Medications**	21.4%	9.0%
Food	14.2%	8.2%
X-Rays	8.0%	4.3%
Surgery (Other than Sterilization)	3.3%	3.2%
Boarding	8.6%	3.2%
Sterilization	2.6%	2.0%
Behavioral Counseling or Training	1.7%	1.8%
Euthanasia	4.4%	1.6%
Alternative Therapy	3.3%	0.1%
Dental	4.7%	0.0%

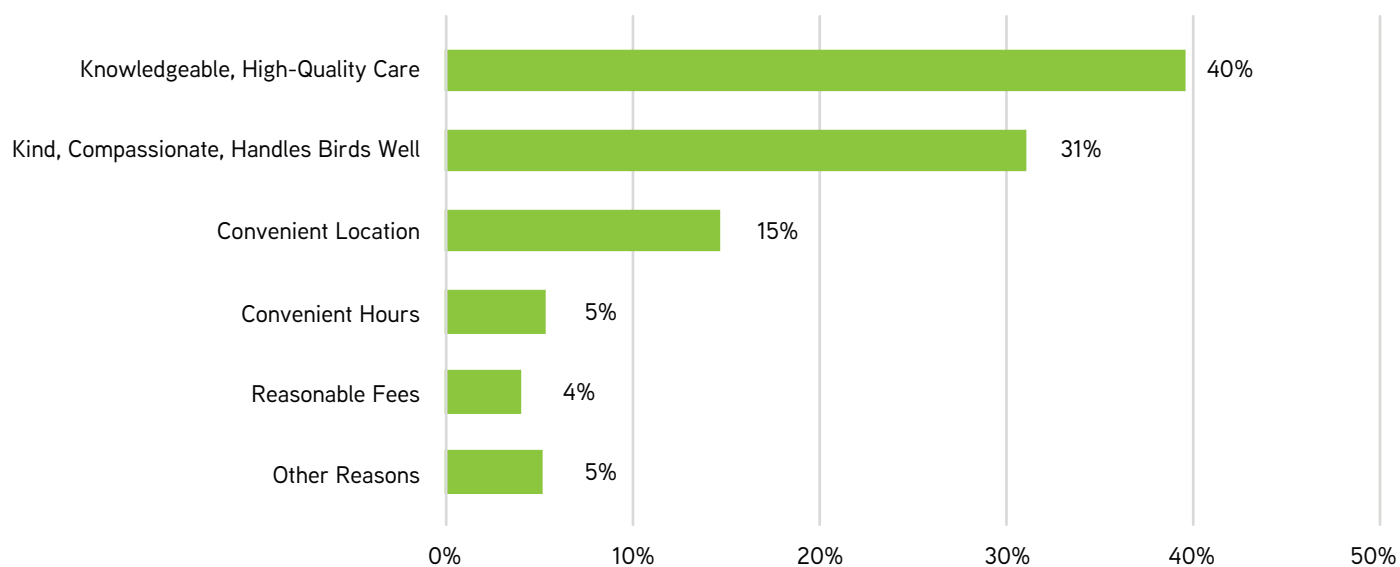
**Parasite Prevention or Treatment in 2011 Reflects "Flea/Tick Products" Plus "Deworming"*

***Prescription Medications in 2011 Reflects "Drugs or Medications"*

S2_FIG 35. PERCENT OF PET BIRD-OWNING VETERINARY CLIENTS WITH A “REGULAR” VETERINARIAN, 1991–2016



S2_FIG 36. MAIN REASON PET BIRD OWNERS GO TO THEIR “REGULAR” VETERINARIAN, 2016

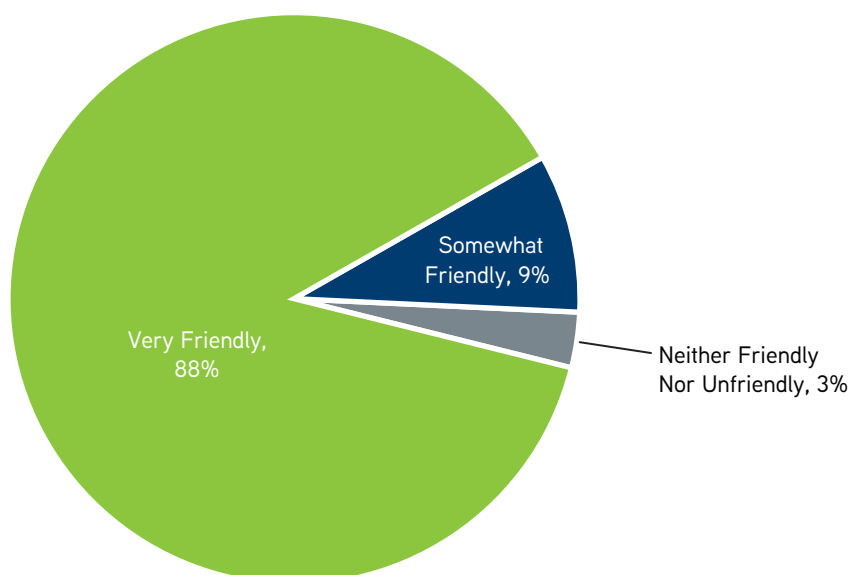


The majority (84%) of the households who visited a veterinarian in 2016 with a pet bird had a “regular veterinarian” (S2_FIG 35).⁴ Almost three-quarters (73%) of the bird owners who visited a vet, visited their regular veterinarian; 11% who had a regular veterinarian did not visit their regular veterinarian at their last visit; and 16% simply did not have a regular veterinarian.

Why are pet bird veterinary clients loyal to their regular veterinarian? The most often (40%) cited reason is that their regular veterinarian provides “knowledgeable, high-quality care” (S2_FIG 36); 31% indicated it was because their regular vet is “kind, compassionate, handles pet birds well;” 15% replied that the main reason they go to their regular veterinarian is because of the “convenient location,” compared to 19% who cited this in 2012.

Also, for the first time, 2017 PDS respondents were invited to rate the ‘bird-friendliness’ of their regular veterinarian. An overwhelming majority (88%) reported that their regular veterinarian is “very pet bird-friendly,” (S2_FIG 37), and another 9% indicated that their regular veterinarian is “somewhat pet bird-friendly.” Pet bird-friendliness might not be the only most important reason for keeping one’s regular veterinarian, (recall S2_FIG 36) but the magnitude of “pet bird-friendliness” is impressive.

S2_FIG 37. HOW “PET BIRD-FRIENDLY” IS YOUR REGULAR VETERINARIAN?



⁴ The percent of bird-owning households with a regular veterinarian in the past might have been significantly underestimated because the large percent of visits “not to our regular veterinarian” could not be distinguished from the large percent of visits made for non-routine care. We now know that half the visits with birds are for non-routine care.

The 26% percent of pet bird-owning households who visited a veterinarian that was not their “regular veterinarian” at their most recent visit were asked why they chose that veterinarian. Among those who had a “regular vet” but most recently saw a different veterinarian, the most cited reason was “specialist” (51%), followed by “convenient hours” (28%), and then “recommendation or reputation for high-quality care” (13%) (S2_TAB 37). The second and third reasons should be noted by veterinarians concerned about retaining bird-owning clients.

Among those who did not have a regular veterinarian, “convenient hours” (40%), followed by “recommendation or reputation for high-quality care” (34%) were most often cited. No respondent chose an unknown veterinarian after consulting the internet, and none reported “reasonable fees” as a reason for their choice.

S2_TAB 37. REASON FOR CHOICE OF VETERINARIAN BY PET BIRD-OWNING HOUSEHOLDS FOR MOST RECENT VISIT TO A VETERINARIAN THAT WAS NOT THEIR “REGULAR VET,” 2016

	Have a “Regular Veterinarian”	Don’t Have a “Regular Veterinarian”
Specialist	51%	12%
Convenient Hours	28%	40%
Recommendation or Reputation for High-Quality Care	13%	34%
Print Advertisement (Not Internet)	4%	
Yellow Pages	2%	
Reasonable Fees		
Convenient Location		6%
Internet or Website		
Their Sign From Street		
Other Reason Not Listed	2%	8%

S2_TAB 38. DISTRIBUTION OF PET BIRD-OWNING HOUSEHOLDS BY VETERINARY EXPENDITURES, PER HOUSEHOLD, PER VISIT, AND PER PET BIRD, 1996–2016

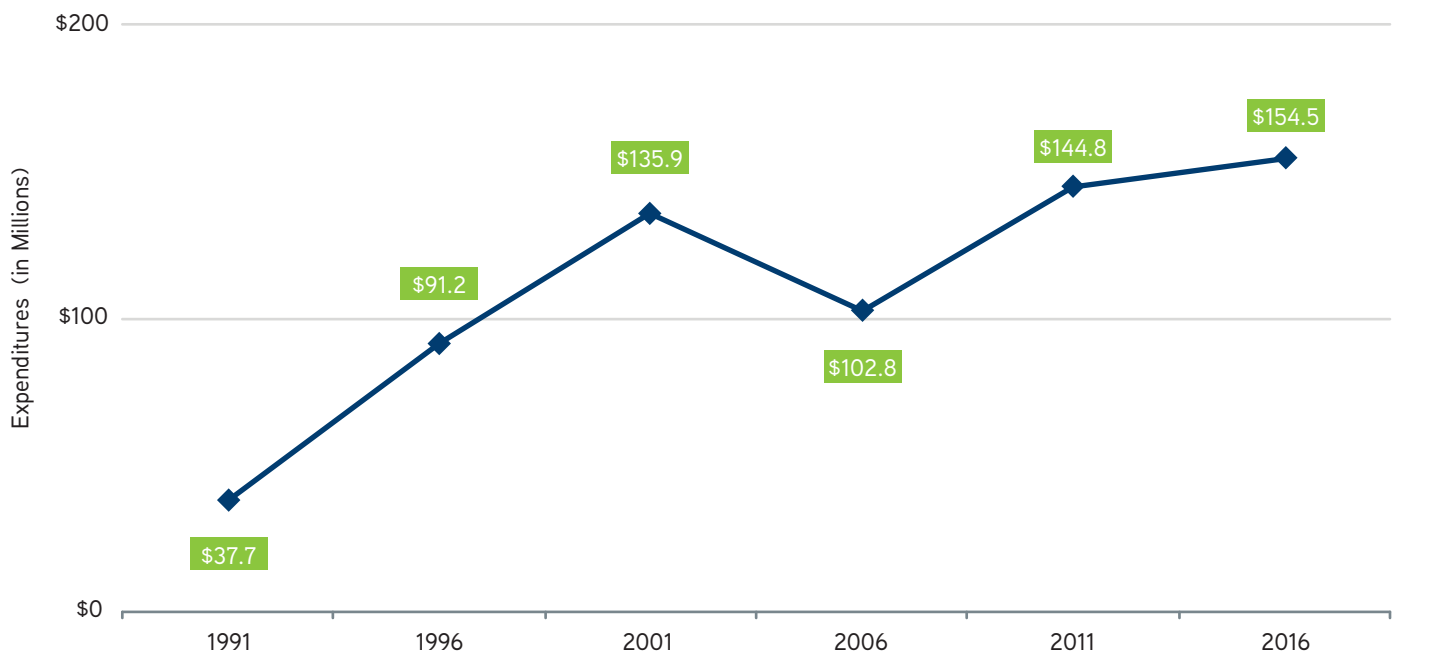
	1996	2001	2006	2011	2016
No Expenditure	90%	89%	88%	88%	89%
Some Expenditure	11%	11%	12%	12%	11%
Less than \$50	4%	4%	3%	3%	2%
\$50 to \$99	3%	3%	2%	3%	2%
\$100 to \$199	2%	2%	3%	3%	2%
\$200 to \$499	1%	2%	4%	3%	4%
\$500 to \$999	0%	1%	1%	1%	1%
\$1,000 or More	0%	0%	0%	1%	1%
Expenditure/All Households	\$11	\$18	\$25	\$33	\$40
Expenditure/All Visits	\$56	\$67	\$82	\$97	\$132
Expenditure/All Birds Owned Anytime	\$6	\$9	\$9	\$14	\$18
Expenditure/Vet Client Household					\$348
Expenditure/Bird in Client Household					\$150

The pattern in household spending at the veterinarian by pet bird owners has not changed since 1996. As shown in the table about visits, in 2016, 89% of bird owners spent nothing at the veterinarian. And only 11% of all pet bird-owning households spent something at a veterinary clinic or hospital in 2016, no different from the rates observed in all prior survey years (S2_TAB 38). Bird-owning households who did visit a veterinarian spent \$348/year at the veterinarian on care for their birds. That was \$150 per bird in veterinary client households. However, bird owners spent 22% more per household, 36% more per visit and 27% more per bird in 2016 compared to 2011. These increases exceed the 8.7% rise in the general price level over the same period that was due to economy-wide inflation.

The expenditure per bird-owning household multiplied by the total number of households who owned pet birds anytime in 2016 gives the estimated total expenditures by bird-owning households at the veterinarian (S2_FIG 38). More than \$154 million was spent on pet bird care at the veterinarian in 2016. This is 7% higher than the total estimated expenditure at the veterinarian by bird-owning households in 2011.

Thus, despite the decline in pet bird ownership, because spending per household rose, overall veterinary revenues from pet bird care were \$9.7 million higher than in 2011.

S2_FIG 38. TOTAL VETERINARY EXPENDITURES BY BIRD-OWNING HOUSEHOLDS, 1991–2016



In contrast with what is observed among dog, cat or horse owners, neither the number of visits nor spending correlate systematically with the reported human-animal bond (S2_FIG 39, S2_TAB 39). Less than 6% of the bird owners who consider them “property under our care” visited the veterinarian in 2016. Those who did visited more often, however, and they spent more each visit. This explains why spending per household in that category was the highest, at \$58 per household.

S2_FIG 39. VETERINARY VISITS PER BIRD-OWNING HOUSEHOLDS BY HUMAN-ANIMAL BOND



Veterinary visit frequency by pet bird-owning households varied a bit by race and ethnicity (S2_TAB 40). In general, pet bird-owning households made only 0.3 visits to a veterinarian in 2016. But African-American bird owners were more likely to make four or more visits, and overall, they made twice as many visits (0.6) per year than bird owners in general. Households of Latino/Hispanic ethnicity were least likely to make any visits (92% made none), and overall, they made the lowest number of visits per household (0.2).

S2_TAB 39. PET BIRD OWNERS’ VETERINARY EXPENDITURES BY HUMAN-ANIMAL BOND AND PER HOUSEHOLD, 2016

	We Consider Our Pet Birds to Be:		
	Family Member	Companion	Property
No Expenditure	86%	92%	94%
Some Expenditure	14%	8%	6%
Expenditures per Household	\$50	\$22	\$58

S2_TAB 40. FREQUENCY OF VISITS TO THE VETERINARIAN AND NUMBER OF VISITS PER HOUSEHOLD BY RACE AND ETHNICITY, 2016

	Race/Ethnicity			
	White	African American	Asian/Pacific Islander/ American Indian/ Eskimo	Latino/Hispanic
No Visits	89%	85%	84%	92%
One	6%	6%	3%	2%
Two	3%	3%	7%	3%
Three	1%	0%	1%	1%
Four or More	2%	6%	3%	2%
Visits per Household	0.3	0.6	0.4	0.2





chapter 6:

HORSE-OWNING HOUSEHOLDS

More than half (56%) of all horse-owning households had at least one visit from a veterinarian for their horse(s) in 2016. This is about the same rate since 1991.

In 2016, 14% received one visit, 23% had two and 14% had four or more visits by a veterinarian for their horses in 2016. The overall average is 1.6 visits by a veterinarian per horse-owning household, and 0.7 visits per horse owned at any time. The 56% of households whose horses were seen by a veterinarian had an average of 2.8 visits (that is, ignoring the households who had zero visits). And because many horse-owning households have more than one pet horse, they had an average of 1.3 veterinary visits per horse in 2016.

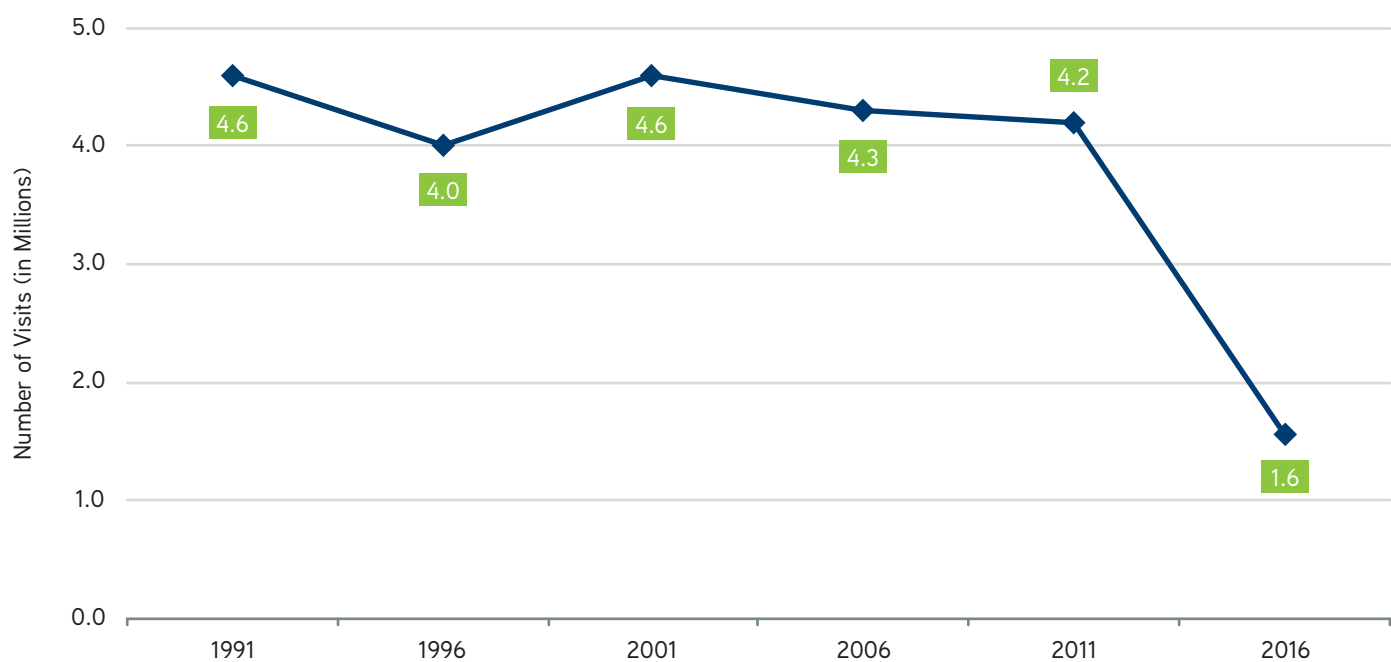
Total visits by veterinarians to see pet horses are estimated by multiplying the “anytime” horse population during 2016 (2.1 million) by the visits per horse (0.74). Equivalently, it is the households who owned horses anytime (1 million) multiplied by the visits per household (1.6). Either way, an estimated 1.6 million veterinary visits were made to pet horses in 2016 (S2_FIG 40). The apparent decline is due entirely to the decline in the estimated pet horse population.

Among the 44% of all horse-owning households who didn’t have their horses seen by a veterinarian in 2016, more than a third (34%) said the main reason was because their “horses did not get sick or injured,” compared to just 4% who gave that reason in the 2012 PDS. In 2016, 31% said it was because “we gave vaccines and health care to the horses ourselves/where boarded,”—also very different—five times higher than the 6% who gave the same explanation for the 2012 PDS. Furthermore, in 2011, 61% of those who did not “take their horse to a veterinarian” said “horses did not need vaccines,” while only 8% of the 2016 respondents gave that reason.

S2_TAB 41. DISTRIBUTION OF HORSE-OWNING HOUSEHOLDS BY NUMBERS OF VISITS BY A VETERINARIAN, VISITS PER HOUSEHOLD, AND VISITS PER HORSE, 1991–2016

	1991	1996	2001	2006	2011	2016
No Visits	46%	41%	45%	39%	46%	44%
At Least One Visit	54%	59%	55%	61%	54%	56%
One	17%	18%	19%	19%	16%	14%
Two	14%	16%	14%	18%	14%	23%
Three	7%	7%	5%	7%	6%	5%
Four or More	15%	18%	17%	17%	17%	14%
Visits per Household	2.4	2.3	2.1	2.2	1.9	1.6
Visits per Horse	1.0	1.0	0.9	0.5	0.7	0.7
Average Number of Visits per Households With Horses Seen by a Veterinarian						2.8
Average Number of Visits per Horse in Households With Horses Seen by a Vet						1.3

S2_FIG 40. NUMBER OF VISITS BY VETERINARIANS TO PET HORSES, 1991–2016



Furthermore, in 2016 only 3.2% of those whose horses were not seen by a veterinarian said it was mainly because “no veterinarians in the area.” This contrasts starkly with the 13.7% who answered “too hard to transport horses” in 2011. Note the change in the wording of the question. The 2017 PDS question was, “the main reason your horse(s) were not seen by a veterinarian,” whereas the 2012 question was, “the primary reason for not taking horses to veterinarian.”

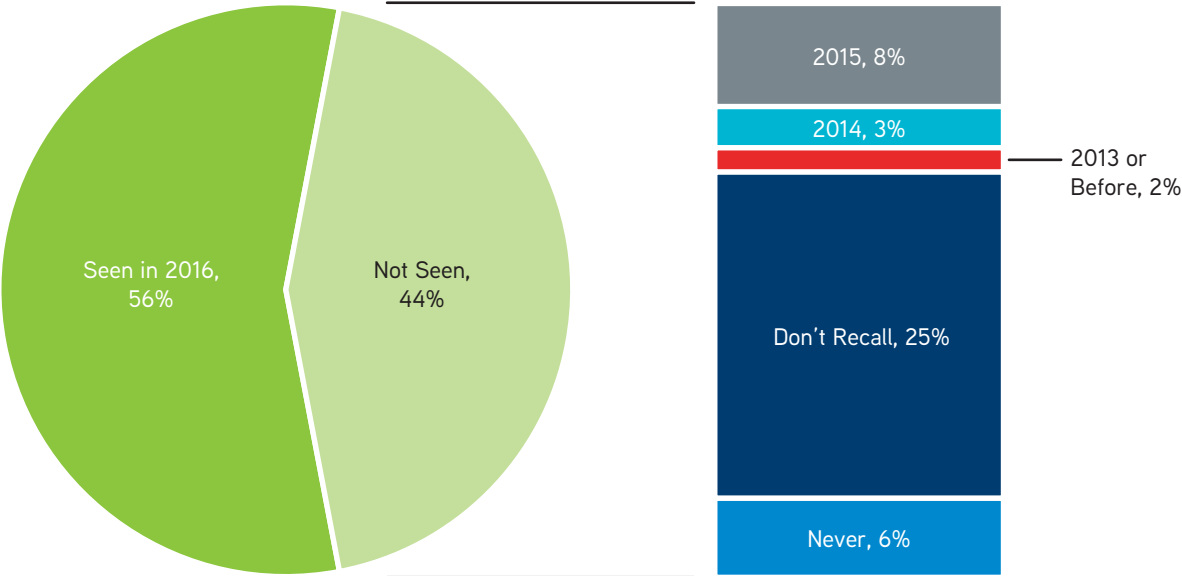
In 2016, only 3.4% said they did not have the money to pay for it, and 0.4% said that “the price of veterinary care was higher than we think it’s worth.” This option appeared for the first time in the 2017 PDS. In 2011, 8.8% said, “could not afford it.”

S2_TAB 42. MAIN REASON HORSES WERE NOT SEEN BY A VETERINARIAN IN 2016

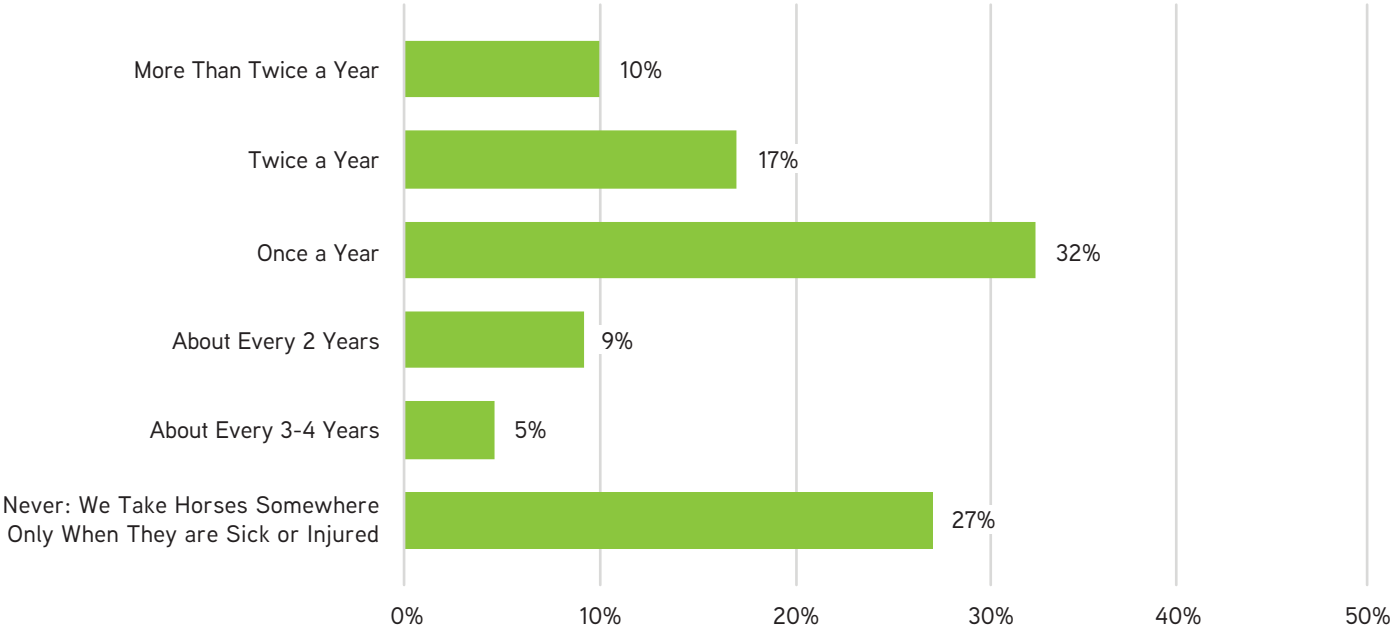
	2016
Horses Did Not Get Sick or Injured	34.0%
We Gave Vaccines and Healthcare to Our Horses Ourselves/Where Boarded	31.0%
Horses Did Not Need Vaccines	8.0%
Did Not Have Money to Pay for It	3.4%
No Veterinarians in the Area	3.2%
The Price of Veterinary Care Was Higher Than We Think It’s Worth	0.4%
None of the Above	20.0%

Also new in the 2017 PDS was the question “What was the last/most recent year any of your horses were seen by a veterinarian?” More than half of the horse owners whose horses were not seen by a veterinarian, or 25% of all horse owners, responded, “Don’t recall” (S2_FIG 41). And 6% of all horse owners in 2016 responded that the last time their horse was seen was, “Never.”

S2_FIG 41. LAST/MOST RECENT YEAR HORSE(S) SEEN BY A VETERINARIAN, 2016



S2_FIG 42. ROUTINE/PREVENTIVE CARE FREQUENCY FOR HORSES



The American Association of Equine Practitioners recommends at least one routine and preventive care visit per year for every horse (<http://www.sitaraanimalhospital.com/wp-content/uploads/2015/04/aaep-equine-preventive-healthcare-guidelines-final.pdf>). Because almost half (44%) of all horse owners still do not have their horses seen by a veterinarian even once a year, it is clear that many horse owners do not follow veterinarians’ advice about routine/preventive care.

However, more than half (59%) the respondents claimed that they have their horses seen for routine/preventive care at least once a year (S2_FIG 42). This is slightly higher than the 52% who reported the same in 2011 (Figure 2-37, page 107, 2012 PDS). One-tenth (10%) claim to get routine care more than twice a year, and another 17% claim they get it twice a year. Just under one-third get it once a year. The shares who report less frequent routine care match the share whose horses were last seen in 2015 and before (S2_FIG 41). But the share of horse owners who state they never get routine care was up to 27% in 2016 (similar to the percent who “don’t recall last vet visit”), significantly higher than the 10% who admitted the same in 2011.

The 2017 PDS also asked directly how many times owners received routine/preventive care in 2016. More than half (57%) of all horse-owning households reported the (non-zero) number of times their horse(s) were seen for routine/preventive care in 2016 (S2_TAB 43). This conforms with the 59% who said that in general, they received routine/preventive care at least once a year (S2_FIG 42). Among those who had their horses seen, the average number of visits per owning household was 2.8/year, and the average amount paid per visit was \$240. Those who did not get routine care were invited to share what they thought veterinarians in their area charge for one routine/preventive care visit. The average expected price (not paid) was \$179.

S2_TAB 43. LAST/MOST RECENT YEAR HORSE(S) SEEN BY A VETERINARIAN, 2016

Percent of Horse Owners	Times Seen/Owner	Paid/Visit	Expected Price
57%	2.8	\$240	\$179

Just over 1% of the horses owned at some time during 2016 were euthanized. This is an estimated 26,000 horses. The respondents to the 2017 PDS were asked for the first time what they paid for euthanasia. The amount paid per euthanized horse is calculated as the total sum reported paid divided by the total number of horses euthanized; \$464 was paid per horse euthanized in 2016 (S2_TAB 44). That average paid reflects also the zero price paid by the 12% percent of the respondents paid no fee for the euthanasia.

S2_TAB 44. EUTHANASIA: PERCENT AND NUMBER OF HORSES, PAID PER HORSE, AND PERCENT NO CHARGE, 2016

	Percent of Horses Owned Anytime in 2016	Number of Horses Euthanized	Paid per Horse	% No Charge
Euthanasia	1%	25,590	\$464	12%

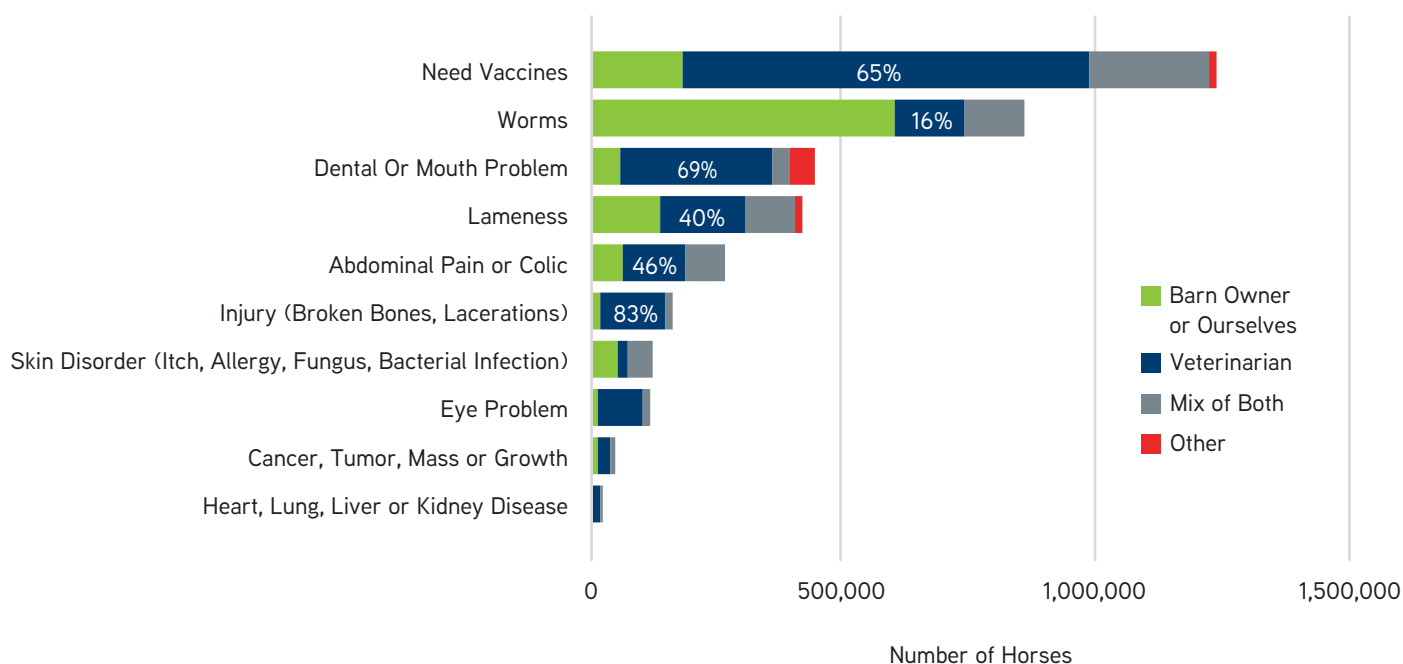
Prior pet ownership and demographics surveys asked pet owners to indicate which veterinary services and products they purchased for their horses. The 2017 PDS also asked horse owners to indicate the health problems or challenges they faced in 2016, whether they purchased services or products from a veterinarian to address these challenges. The list of horse ailments, such as colic and lameness, was tailored to horses. Because horses face some health issues in common with dogs and cats, such as dental problems and skin disorders, there are ailments in common on the lists for all pets.

The need for vaccines and worms were the issues faced by the largest number of pet horse owners in 2016 (S2_TAB 45). Approximately 1.2 million horses—58% of the pet horses owned at some time in 2016—reported needed vaccines. Two-thirds (65%) of their owners relied solely on veterinary care, but an additional 19% got vaccines through a mix of veterinary and own/barn owner care. In contrast, 70% of the owners whose horses needed anthelmintics (for worms) got treatment from the barn owner or did it themselves, and only 16% relied on a veterinarian.

S2_TAB 45. NUMBERS OF HORSES WITH ISSUE, WHO TREATED HORSE BY PROVIDER, 2016

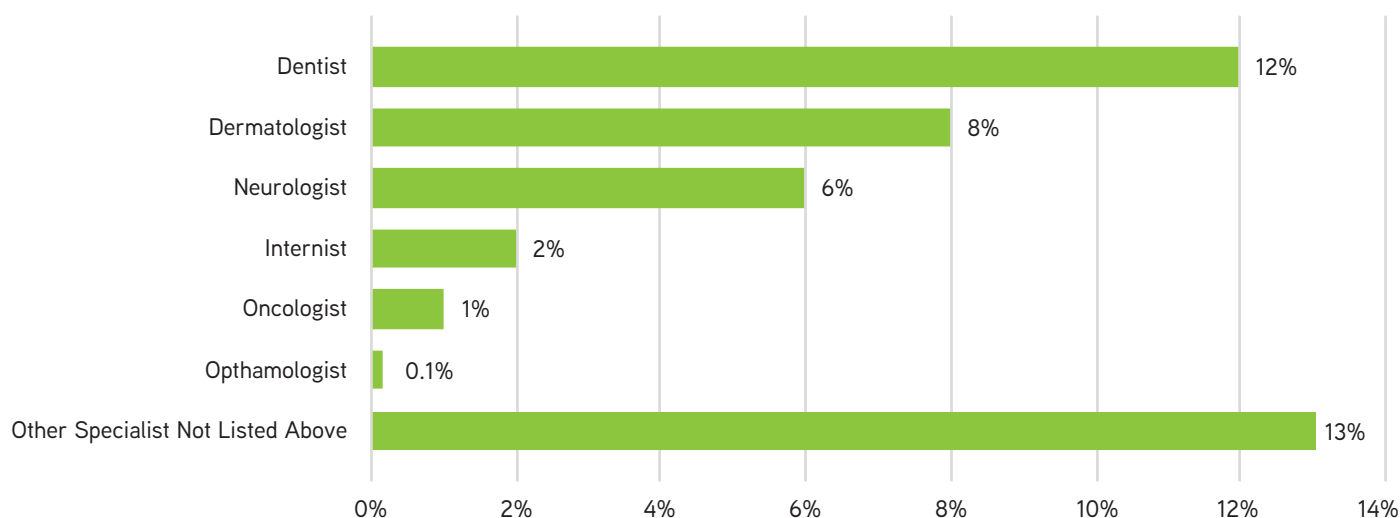
	Number of Horses	Who Treated Your Horse(s) for the Issue?			
		Barn Owners Or Ourselves	Veterinarian	Mix Of Both	Other
Need Vaccines	1,224,809	15%	65%	19%	2%
Worms	848,424	70%	16%	14%	
Dental or Mouth Problem	434,522	12%	69%	8%	11%
Lameness	410,381	33%	40%	24%	4%
Abdominal Pain or Colic	259,376	23%	46%	31%	
Injury	157,110	8%	83%	9%	
Skin Disorder	120,194	41%	18%	41%	
Eye Problem	112,935	8%	78%	15%	
Cancer, Tumor, Mass or Growth	46,325	18%	59%	23%	
Major Organ Disease	20,708		83%	17%	

S2_FIG 43. PERCENTAGES TREATING EQUINE HEALTH ISSUES BY PROVIDER, 2016



S2_FIG 44 shows that dentists were the most sought veterinary specialist, engaged by 12% of the horse-owning households whose horses were seen by any veterinarian in 2016. Dermatologists were the second most frequently sought veterinary specialist, at 8%.

S2_FIG 44. PERCENTAGES OF VETERINARY CLIENTS WHOSE HORSES WERE SEEN BY VETERINARY SPECIALISTS, 2016



S2_TAB 46. REASON FOR CHOICE OF VETERINARIAN BY HORSE-OWNING HOUSEHOLDS FOR MOST RECENT VETERINARY VISIT THAT WAS NOT THEIR “REGULAR VET,” 2016

	2011	2016
	Percent of Veterinary Clients Who Purchased the Service or Product From a Veterinarian	
Routine Check Up (Includes Exam, Vaccinations, etc.)	N/A	100%
Exams	79%	N/A
Vaccines	77%	49%
Medications	34%	30%
Food	5%	18%
Dental Care	34%	26%
Blood or Lab Tests	22%	16%
Deworming	20%	12%
X-Rays	7%	10%
Emergency Care	24%	9%
Surgery (Other than Castration/Gelding)	3%	5%
Euthanasia	6%	4%
Castration/Gelding	33%	3%
Complementary or Alternative Care	4%	2%
Rehabilitation Therapy	N/A	1%

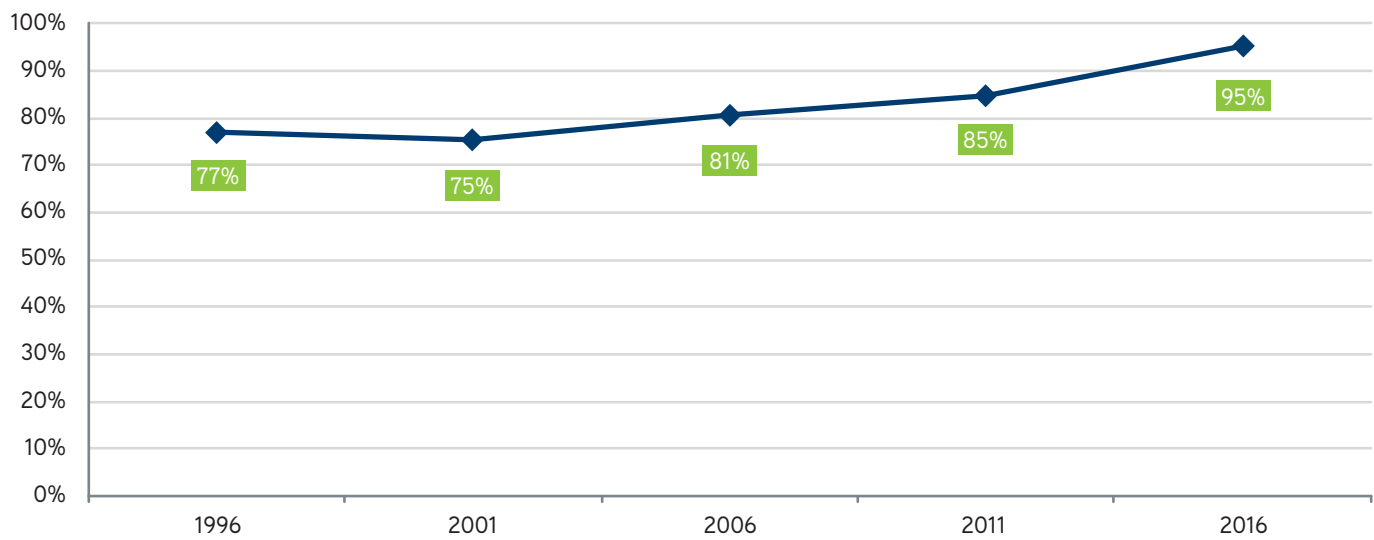
The 2017 PDS asked about the reasons horse owners sought health care. However, some of the new data could be summarized and compared to the veterinary service/product purchase data obtained by previous PDS surveys. S2_TAB 46 shows the comparable data. In 2016, 100% of the horse-owning households whose horses were seen at any time in 2016 obtained at least one routine/preventive care visit. In contrast, in 2011 only 79% reported they obtained an “exam” and 77% obtained vaccines from a veterinarian. As documented above, only two-thirds of all horse owners whose horses needed vaccines relied solely on veterinary care, while the rest vaccinated their horses themselves (or their barn owner did), so in 2016 the percent of horse-owning veterinary clients reporting they obtained vaccines from a veterinarian was only 49%. Two of the surprises are the 18% of 2016 veterinary clients who reported obtaining food, compared to 5% in 2011; and the 3% of 2016 clients who had their horses gelded or castrated, compared to the 33% castrated or gelded in 2011.

The majority (95%) of horse owners whose horses were seen by a veterinarian in 2016 had a “regular veterinarian” (S2_FIG 45). For the same reasons explained in the dog and cat chapters, the percent of horse owners with a regular veterinarian was underestimated in previous PDS surveys.

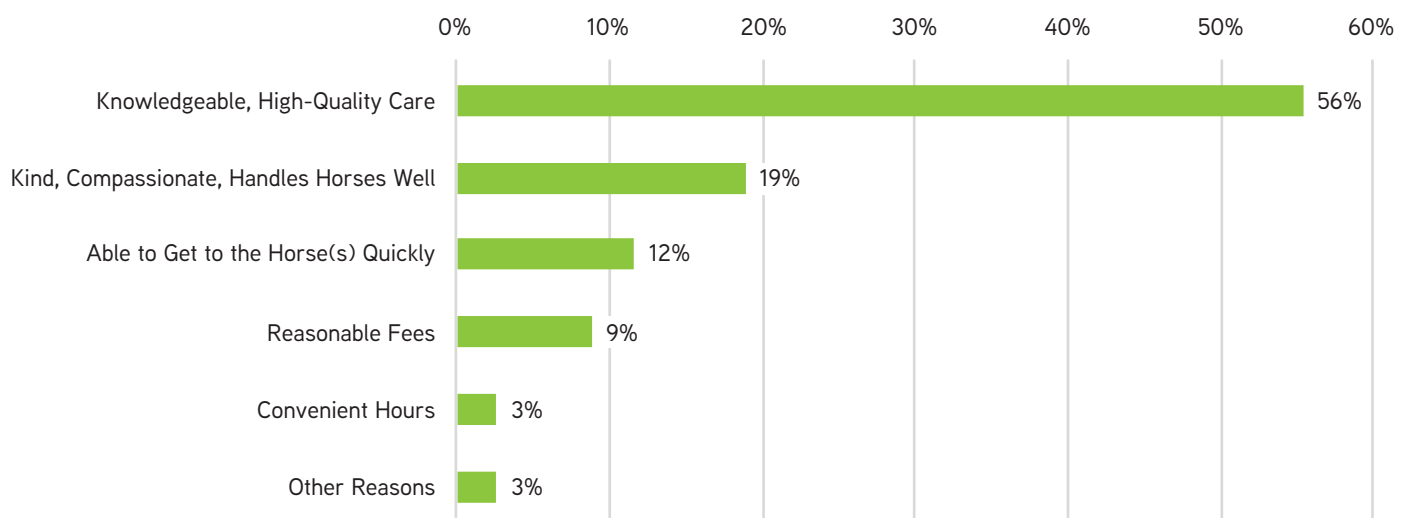
The 15% percent of horse-owning households whose horses were seen by a veterinarian that was not their regular veterinarian on the most recent visit were asked why they chose that veterinarian. Among those who had a “regular vet” but were most recently seen by a different veterinarian, the most cited reason was “Recommendation or reputation for high-quality care” (18%) (S2_TAB 47). Among those who did not have a regular veterinarian, “Able to get to the horse quickly” was by far the most important reason (62%).

The share of horse owners who did not purchase veterinary care (46%) has not changed much for two decades (S2_TAB 48), but household spending on veterinary care by horse owners has risen dramatically per owner, per visit and per horse since 2011. These averages are calculated by dividing the total spent on veterinary care by the total number of horse-owning households, horses or total number of visits. Unlike the trend in household veterinary spending on dogs or cats, spending on veterinary care per horse doubled, to \$291 in 2016 from \$133 in 2011.

S2_FIG 45. PERCENT OF HORSE-OWNING VETERINARY CLIENTS WITH A “REGULAR” VETERINARIAN, 1991–2016



S2_FIG 46. MAIN REASON HORSE OWNERS PATRONIZE THEIR “REGULAR” VETERINARIAN, 2016



S2_TAB 47. REASON FOR CHOICE OF VETERINARIAN BY HORSE-OWNING HOUSEHOLDS FOR MOST RECENT VETERINARY VISIT THAT WAS NOT THEIR "REGULAR VET," 2016

	Have a "Regular Veterinarian"	Don't Have a "Regular Veterinarian"
Recommendation or Reputation for High-Quality Care	18%	
Specialist	14%	
Able to Get to the Horse Quickly	11%	62%
Convenient Hours	9%	9%
Reasonable Fees	7%	15%
Print Advertisement (Not Internet)	5%	
Internet or Website	5%	
Their Sign from Street	3%	
Yellow Pages	2%	
Other Reason Not Listed	25%	14%

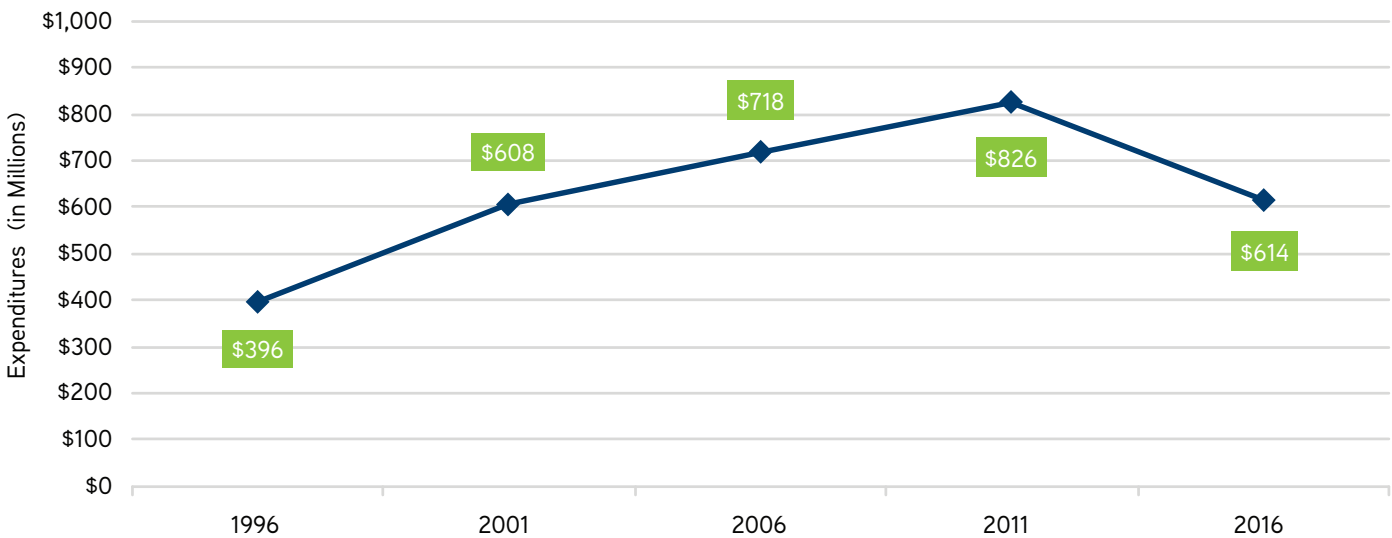
S2_TAB 48. DISTRIBUTION OF HORSE-OWNING HOUSEHOLDS BY VETERINARY EXPENDITURES, PER HOUSEHOLD, PER VISIT, AND PER HORSE, 1996–2016

	1996	2001	2006	2011	2016
No Expenditure	41%	47%	42%	47%	46%
Some Expenditure	59%	54%	58%	53%	54%
Less than \$50	7%	3%	2%	2%	
\$50 to \$99	12%	9%	5%	4%	1%
\$100 to \$199	12%	11%	11%	9%	3%
\$200 to \$499	17%	16%	19%	17%	22%
\$500 to \$999	6%	8%	11%	12%	14%
\$1,000 or More	5%	7%	10%	9%	14%
Expenditure/Owning Household	\$226	\$263	\$360	\$373	\$614
Expenditure/Visit	\$100	\$131	\$167	\$197	\$395
Expenditure/Horse Owned Anytime	\$97	\$112	\$92	\$133	\$291
Expenditure per Equine Vet Client Household					\$1,098
Expenditure/Horse in Vet Client Households					\$507

As with all other pets, the amounts spent by the 56% of all horse-owning households who have their horses seen by a veterinarian differs dramatically from the per owning household estimate. Veterinary clients spent an average of \$1,098/year on their pet horses. In these households, that was \$507/per horse/year.

The expenditure per all horse-owning household times the total number of all households who owned horses anytime in 2016 gives the estimated total expenditures by horse-owning households at the veterinarian (S2_FIG 47). Over \$614 million was spent on veterinary care for pet horses in 2016. That is 26% lower than estimated total expenditure in 2011.

S2_FIG 47. TOTAL VETERINARY EXPENDITURES BY HORSE-OWNING HOUSEHOLDS, 1991–2016



Because the per household and per horse spending rose since 2011, this apparent decline is clearly driven entirely by the reduction in the estimated numbers of horse owning households and the numbers of horses per household. There is no evidence that horse owners are purchasing less veterinary care per horse.

Household income constrains spending on veterinary care, even among horse owners. In contrast with what has been documented among dog- and cat-owning households, however, the human-animal bond has much less to do with spending by horse-owning households on veterinary care. The color-coded S2_TAB 49 shows expenditure on veterinary care by households in each two-way category, by income and human-animal bond, with the color-code showing spending that is lower or higher than the global average of \$614/year.

S2_TAB 49. VETERINARY EXPENDITURE PER HORSE-OWNING HOUSEHOLD BY HOUSEHOLD INCOME AND HUMAN-ANIMAL BOND, 2016

Income Category	All	We Consider Our Horses to Be:		
		Family	Companions	Property
Less than \$20,000	\$86	\$133	\$46	
\$20,000 to \$34,999	\$640	\$682	\$643	\$513
\$35,000 to 54,999	\$221	\$247	\$236	\$106
\$55,000 to 84,999	\$449	\$634	\$300	\$73
\$85,000 or More	\$1,075	\$591	\$262	\$4,833

chapter 7:

SPECIALTY AND EXOTIC PETS



In addition to dogs, cats, pet birds and pet horses, Americans own and care for many other types of animals, and land and sea creatures.

Trends in "specialty and exotic" pet ownership rates on December 31, and the estimated pet populations through 2016 are presented in Section 1, Chapter 7. The expenditures at the veterinarian by households who owned specialty and exotic pets at any time during the year are the basis for the estimates of spending per pet-owning household on veterinary care for their pets.

Ferret owners were the most likely to seek veterinary care for their exotic pet (S2_TAB 50), with 31% of them reporting that they spent something on their ferret(s) at the veterinarian in 2016. The estimated percent of ferret owners with veterinary expenditure has fallen over 20 years from almost 50%. In contrast, in 2016, one-fifth (20%) of pet rabbit owners spent something at the veterinarian on their rabbit(s). That percentage has risen from 13% 20 years ago. The "other, not elsewhere classified" category in 2016 includes, for example: spiders, toads, crabs and other pets on which it is surprising if owners spent anything at a veterinarian.

The average number of visits to a veterinarian by specialty and exotic pet owners in 2016 was 0.16

S2_TAB 50. PERCENTAGES OF SPECIALTY PET-OWNING HOUSEHOLDS WITH VETERINARY EXPENDITURES, 1996–2016

	1996	2001	2006	2011	2016
Ferrets	49.0%	45.0%	39.0%	31.0%	31.0%
Rabbits	13.0%	16.0%	16.0%	17.0%	20.0%
Other Mammals (Gerbil, Hamster, Monkey, etc.)	9.0%*	8.0%*	12.0%*	13.0%*	11.0%
Pet Livestock (Pig, Goat, etc.)	32.0%	29.0%	31.0%	16.0%	11.0%
Reptiles (Turtles, Lizards, Snakes, etc.)	8.0%*	6.0%*	4.0%*	5.0%*	6.0%
Fish	0.0%	1.0%	2.0%	1.0%	2.0%
Pet Poultry (Duck, Chicken, etc.) and Other Birds	4.0%*	5.0%*	4.0%*	6.0%	1.0%
Other Pets, NEC**					0.2%

*For the Years 1996 through 2011, the Percentages Shown in this Table for these Species are the Unweighted Averages of the Reported Percentages in their Respective Subcategories.

**NEC - Not Elsewhere Classified

	1996	2001	2006	2011	2016
Visits per Household	0.30	0.30	0.30	0.40	0.16
Visits per Pet			0.08	0.14	0.02
Total Visits (in Millions)			4.70	5.80	3.04

VETERINARY MEDICAL USE AND EXPENDITURE SUMMARY TABLES

S2_TAB 51. SUMMARY VETERINARY VISITS AND EXPENDITURES FOR DOG-, CAT-, BIRD- AND HORSE-OWNING HOUSEHOLDS, 2016

# Households Owning Pet Anytime	50,420,435	33,399,582	3,824,784	999,875
# Pets Owned Anytime	81,792,057	62,036,562	8,663,353	2,113,725
# Households Visiting Vet	41,757,175	18,137,753	443,455	559,388
# Pets in Household Visiting Vet	67,149,057	34,320,351	1,030,361	1,210,903

	Dog	Cat	Bird	Horse
Visits to Veterinarian				
# Pet-Owning Households	2.4	1.3	0.3	1.6
# Pets	1.5	0.7	0.1	0.7
Total Visits	123,318,154	43,196,446	1,172,412	1,558,529
Visits/Client Household	3	2.4	2.6	2.8
Visits/Client Household Pet	1.8	1.3	1.1	1.3
Percent of Pet-Owning Households by Number of Visits				
None	17.2%	45.7%	88.4%	44.0%
At Least One Visit	82.8%	54.3%	11.6%	56.0%
One	22.0%	21.9%	5.4%	14.0%
Two	26.2%	16.3%	3.2%	23.0%
Three	10.7%	5.8%	0.9%	5.0%
Four or More	23.9%	10.3%	2.1%	14.0%
Veterinary Expenditures				
\$/Pet Owning Household	\$410	\$182	\$40	\$614
\$/Visit	\$168	\$141	\$132	\$395
\$/Pet	\$253	\$98	\$18	\$291
Total Expenditure	\$20,669,860,648	\$6,074,973,031	\$154,451,436	\$614,093,192
\$/Client Household	\$495	\$335	\$348	\$1,098
\$/Client Pet	\$308	\$177	\$150	\$507
Percent of Pet-Owning Households by Level of Expenditures				
No Expenditures	20.0%	46.9%	89.0%	46.0%
Some Expenditure	80.0%	53.1%	11.0%	54.0%
Less than \$50	2.5%	3.1%	2.0%	0.0%
\$50 to \$99	7.4%	9.3%	2.0%	1.0%
\$100 to \$199	15.5%	13.4%	2.0%	3.0%
\$200 to \$499	28.7%	16.9%	4.0%	22.0%
\$500 to \$999	15.1%	6.5%	1.0%	14.0%
\$1,000 or More	10.8%	3.8%	1.0%	14.0%

S2_TAB 52. REASON TO PATRONIZE REGULAR VETERINARIAN ON LAST/MOST RECENT VISIT, 2016

	Percent of Pet-Owners Veterinary Clients with "Regular" Veterinarian			
	Dogs	Cats	Birds	Horses
	89.8%	89.1%	83.9%	95.3%
Convenient Hours	2.7%	2.3%	5.0%	3.0%
Convenient Location*	18.6%	19.9%	15.0%	12.0%
Kind, Compassionate, Handles Pet Well	28.9%	31.4%	31.0%	19.0%
Knowledgeable, High-Quality Care	32.6%	30.7%	40.0%	56.0%
Reasonable Fees	14.0%	13.0%	4.0%	9.0%
Other Reasons	3.2%	2.7%	5.2%	3.0%

*In horse-owners survey, this option was "Able to get to the horse(s) quickly."

S2_TAB 53. REASON FOR CHOOSING NOT MY REGULAR VETERINARIAN ON MOST RECENT VETERINARY VISIT, 2016

	Dogs	Cats	Birds	Horses
Households with a Regular Veterinarian				
Convenient Hours	8.8%	9.9%	28.0%	9.0%
Convenient Location*	16.2%	18.6%		11.0%
Internet or Website	3.4%	2.2%		5.0%
Print Advertisement (Not Internet)	1.0%	2.2%	4.0%	5.0%
Reasonable Fees	19.3%	23.3%		7.0%
Recommendation or Reputation for High-Quality Care	13.0%	12.6%	13.0%	18.0%
Specialist	10.2%	7.1%	51.0%	14.0%
Their Sign from Street	2.9%	0.8%		3.0%
Yellow Pages	3.7%	1.5%	2.0%	2.0%
Other Reason Not Listed	21.6%	21.9%	2.0%	25.0%
Households without a Regular Veterinarian				
Convenient Hours	4.8%	3.8%	40.0%	9.0%
Convenient Location*	27.5%	25.9%	6.0%	62.0%
Internet or Website	4.3%	3.7%		
Print Advertisement (Not Internet)	0.2%	0.4%		
Reasonable Fees	27.0%	28.6%		15.0%
Recommendation or Reputation for High-Quality Care	12.8%	17.0%	34.0%	
Specialist	1.3%	0.5%	12.0%	
Their Sign from Street	1.1%	1.2%		
Yellow Pages	1.0%	0.8%		
Other Reason Not Listed	20.0%	18.2%	8.0%	14.0%

*In horse-owners survey, this option was, "Able to get to the horse(s) quickly."

section 3

PET OWNER DEMOGRAPHICS





SECTION 3 OVERVIEW: PET OWNER DEMOGRAPHICS

This section focuses on the demographic characteristics of pet owners. The rate of pet ownership is highest among people who live in the least urbanized areas and near or in urbanized areas of under 100,000 population size, and it is lowest among people residing in cities.

Following historic patterns, people residing in "mobile homes" were most likely to own pets (74%) and people residing in apartments, condos and other multi-family housing were least likely to own pets (43%). And "family" households continue to be more likely to own pets than "non-families."

Pet ownership and the human-animal bond continue to vary systematically by race and ethnicity. White households have the highest rates of pet ownership. Black/African-American households have the lowest rates of pet ownership. Dog and bird ownership is highest in Latino/Hispanic households.

Respondents were classified as family households or non-family households according to their composition. These two groups were further disaggregated into seven household types. The seven household types are:

Family

1. Husband and wife with or without children present.
2. Male, no wife, with children or other relative present.
3. Female, no husband, with children or other relative present.

Non-family

4. Male living alone.
5. Female living alone.
6. Male living with nonrelative.
7. Female living with nonrelative.

Dog Owner Demographics

Dogs are considered "members of the family" more often than any other type of pet. The percentage of dog-owning households who say they consider their dog to be "family" in 2017 (85%) appears to have risen dramatically from the two-thirds (67%) who reported the same in the 2012 PDS. The human-animal bond with dogs does not depend systematically on income or household size, but it does vary by ethnicity.

Dogs continue to be most often found in family households with both spouses present; the larger the better, and the less urban the better.

Income matters somewhat: the lowest rates of dog ownership are found among households in the lowest income category, but the highest rates are found among the middle-income category of households rather than among the highest income households.

67% People in less urbanized areas own pets (43% of city residents own pets)

67% Family households own pets, much more likely than non-family

45% Single people own pets, the least among all household types

37% Black/African American households own pets



85% Dog owners consider them to be "members of the family"

48% Family households with both spouses present have the highest rate of dog ownership

25% Men living alone have the lowest rates of dog ownership

55% Men living alone have the lowest rates of dog ownership

Cat Owner Demographics

The surprising finding in 2012—that the highest rate of cat ownership was among divorced, widowed or separated persons—has not continued. Once again families have higher rates of cat ownership than non-families.

The highest rate of cat ownership is found among families headed by females with no spouse present. And as with dogs, the larger the family, the higher the rate of cat ownership.

Cats are least likely to be found with males living alone. However, the cat-ownership rate measured by the 2017 PDS is the highest ever. And among non-family households, cats are more likely to live in households headed by a female living with non-relatives, and next most likely to live with females living alone.

Cats are least likely to live with households in the most populous areas, and most likely to live with households in the least urbanized areas.

Cats are significantly more likely to be considered a “companion” than dogs are, especially among the highest-income cat households. Nevertheless, more than three-quarters of cat owners consider their cats to be “members of the family.”

Bird Owner Demographics

Like with dogs or cats, families are more likely to own birds than non-families.

In contrast with dogs or cats, male-headed families with no spouse present are much more likely to own a bird than any other type of household. But pet bird ownership is not necessarily a male thing. When males live alone or with non-relatives they are also the least likely to own pet birds.

Bird ownership rates decline with education, and they generally decline with household income. The bird ownership rate is highest among the lower-middle-income category households and lowest among the uppermost income category.

Horse Owner Demographics

Horse-ownership rates declined across all household types, but most historical patterns in pet horse ownership continued through 2016.

The most potent determinant is rurality. The rate of pet horse ownership is about three times higher among those who reside in the least urbanized areas with no city larger than 100,000 in population, compared to the horse-ownership rate among those residing in big-city regions.

Like dog- or cat-owning households, horse ownership is higher among families than non-families. Like dogs and unlike cats or birds, the probability of horse ownership rises with income. Like cats and unlike dogs, a higher rate of horse ownership is found among families headed by females, with no spouse present.

In contrast with all other pets, horse ownership correlates directly with education: Households including someone with a Ph.D. are twice as likely to own a pet horse than households with someone without a high school diploma.



chapter 1:

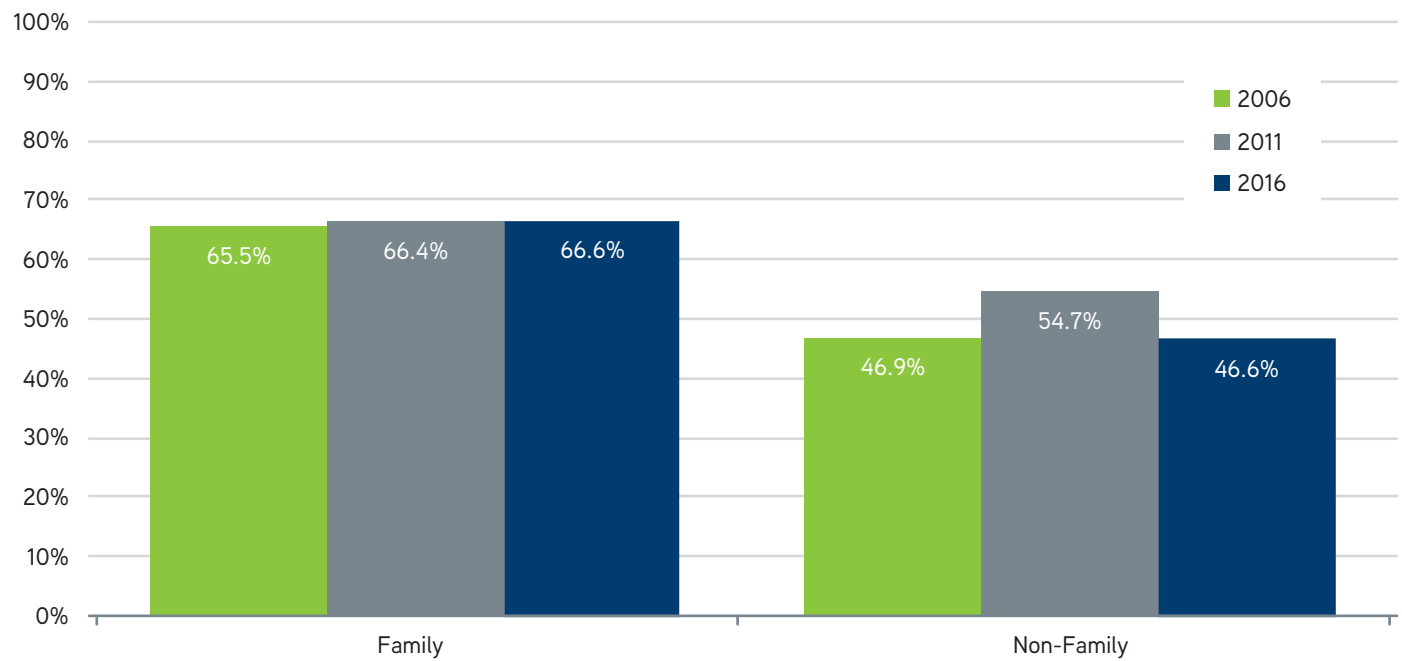
ALL PET-OWNING HOUSEHOLDS

Pet ownership is higher among households categorized as families (66.6%) compared to non-family (46.6%) households.

Pet ownership among non-family households has returned to the rate observed in 2006.

The highest rates of pet ownership in 2016 were found among households with both spouses present (66.8%) and female-headed households with children or other relatives (66.9%). The lowest rate of pet ownership continues to be found among households comprised of males living alone (42%), although the rate of pet ownership among solo male households has risen since 2006.

S3_FIG 1. PERCENT WHO OWNED PETS BY HOUSEHOLD DESIGNATION, 2006–2016

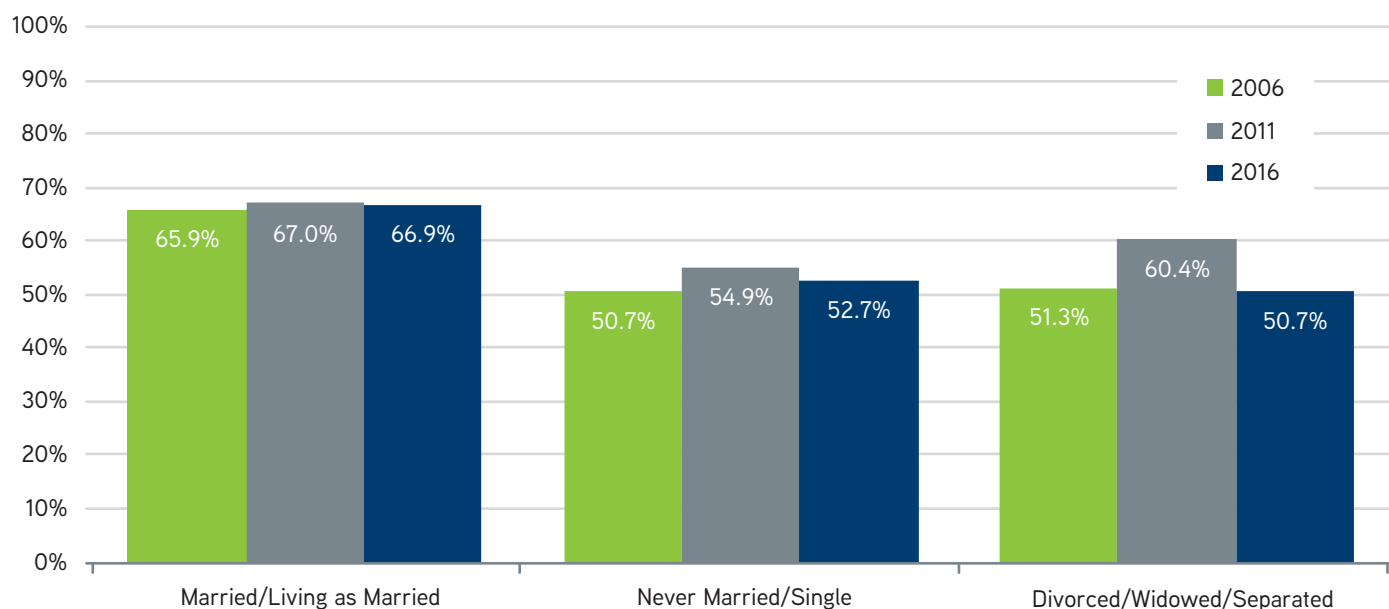


S3_TAB 1. PERCENT WHO OWNED PETS BY HOUSEHOLD TYPE, 2006–2016

	2006	2011	2016
Household Type	%	%	%
Family	65.5%	66.4%	66.6%
Husband and Wife with or without Children	66.5%	67.5%	66.8%
Male, No Wife, with Children or Other Relatives	55.9%	58.7%	64.7%
Female, No Husband, with Children or Other Relatives	63.9%	67.2%	66.9%
Non-Family	46.9%	54.7%	46.6%
Male Living Alone	34.3%	43.8%	42.0%
Female Living Alone	46.8%	57.1%	48.9%
Male Living with Nonrelative	63.8%	58.9%	52.4%
Female Living with Nonrelative	74.4%	68.1%	60.5%

Pet-ownership rates in 2016 were highest among those who were married (66.9%), followed by those never married (52.7%) (S3_FIG 2).

S3_FIG 2. PERCENTAGE OF HOUSEHOLDS WHO OWNED PETS BY MARITAL STATUS, 2006–2016



Also following historic patterns, pet ownership continues to be positively related to household size (S3_TAB 2). In 2016, the highest rates of pet ownership were found among households with five or more persons (73.9%) and three persons (72.5%). The lowest rate of pet ownership in 2016 was found among solo-person households (45.4%).

S3_TAB 2. PERCENT WHO OWNED PETS BY HOUSEHOLD SIZE, 1991–2016

	1991	1996	2001	2006	2011	2016
Household Size	%	%	%	%	%	%
One Member	38.8%	40.2%	39.5%	42.1%	49.4%	45.4%
Two Members	55.2%	55.7%	54.8%	59.8%	62.8%	59.4%
Three Members	70.0%	70.7%	67.8%	69.3%	70.9%	72.5%
Four Members	74.7%	76.1%	71.5%	71.7%	71.6%	71.7%
Five or More Members	76.0%	75.5%	71.0%	72.5%	71.8%	73.9%

Households are classified across five income categories for analysis. In general, the higher the household income, the higher the rate of pet ownership (S3_TAB 3). The rate of pet ownership among households in the highest income category (\$85,000 or more), however, is not the highest. The highest rate of pet ownership (63.5%) was found among households with incomes between \$55,000 and \$84,999.

S3_TAB 3. PERCENT WHO OWNED PETS BY HOUSEHOLD INCOME, 2001–2016

	2001	2006	2011	2016
Household Income	%	%	%	%
Less than \$20,000	47.6%	51.3%	57.2%	49.1%
\$20,000 to \$34,999	53.1%	57.3%	62.4%	58.3%
\$35,000 to \$54,999	57.5%	60.6%	63.9%	61.7%
\$55,000 to \$84,999	62.0%	64.2%	64.2%	63.5%
\$85,000 or More	62.1%	63.6%	63.7%	61.1%

Pet ownership rates in 2016 were highest among households in which the respondent had an Associate's degree (63.7%) and lowest among households where the respondent had a Ph.D. (43.8%) (S3_TAB 4).

S3_TAB 4. PERCENT BY EDUCATION LEVEL WHO OWNED PETS, 2016

Education Level	%
Less than High School	59.2%
High School or GED	60.4%
Some College, but No Degree	60.5%
Associate Degree	63.7%
Bachelor's Degree	58.3%
Master's Degree (MA, MS, MBA, etc.)	51.9%
Professional Degree (JD, MD, DVM, etc.)	53.6%
Ph.D.	43.8%

Those who owned their home were more likely to own a pet (63.7%) than those who rented (53%) in 2016 (S3_TAB 5).

S3_TAB 5. PERCENT WHO OWNED PETS BY HOME-OWNERSHIP STATUS, 1991–2016

	1991	1996	2001	2006	2011	2016
Home Ownership Status	%	%	%	%	%	%
Owned Own Home	60.7%	61.5%	58.7%	62.3%	66.0%	63.7%
Rented	49.8%	49.4%	46.7%	50.5%	53.9%	53.0%
Other	59.9%	59.7%	57.6%	59.6%	62.5%	52.5%

Pet-ownership rates differ by the type of residence. The highest rates of pet ownership in 2016 were found among households living in mobile homes (73.8%). The next highest rate is among people living in houses (65.8%), with the lowest rates among those living in apartments, condos, duplexes and other multiple-family residences.

S3_TAB 6. PERCENT WHO OWNED PETS BY TYPE OF RESIDENCE, 2001–2016

	2001	2006	2011	2016
Type of Residence	%	%	%	%
House	60.1%	63.4%	66.7%	65.8%
Apartment	34.7%	39.5%	46.4%	43.1%*
Condominium	36.2%	41.7%	46.6%	
Mobile Home	64.4%	68.5%	73.2%	73.8%
Twinplex/Duplex	50.4%	55.7%	58.2%	42.8%*
Other	45.2%	47.6%	50.8%	

*Apartment and Condominium categories were combined, and Twinplex/Duplex was discontinued as a distinct category in 2016.

Pet ownership declines with the degree of urbanization. Pet-ownership rates are highest among those residing in rural and the smallest urbanized areas (below 100,000 population size) (S3_TAB 7). For example, 67.1% of households in either rural communities or the smallest urban areas owned pets, compared to 51.6% of the households in the largest urban areas that include a city with a population size of 2 million or more.

S3_TAB 7. PERCENT WHO OWNED PETS BY COMMUNITY SIZE, 2001–2016

	2001	2006	2011	2016
Community Size (Urban Area Population)	%	%	%	%
Below 100,000	61.8%	66.9%	70.0%	67.1%
100,000 to 499,999	58.9%	64.5%	65.6%	62.0%
500,000 to 1,999,999	55.7%	60.4%	63.2%	60.3%
2,000,000 or more	53.0%	55.4%	59.2%	51.6%

Pet ownership varies across racial and ethnic groups. The highest rate of pet ownership in 2016 was observed among White households (64.7%), followed by Latino/Hispanic (61.4%) households. The lowest rate of pet ownership was found among Black/African-American households (36.9%) (S3_TAB 8).

Latino/Hispanic households have the highest rate of dog (44.6%) and pet bird (4.2%) ownership. White households have the highest rate of cat ownership (31.8%). Native Americans/Asian/Pacific Islanders/Aleutians/Eskimos have the highest rate of pet horse ownership (1.2%) (S3_TAB 8).

S3_TAB 8. PERCENT OF HOUSEHOLDS BY RACE/ETHNICITY WHO OWNED PETS, DOGS, CATS, BIRDS OR HORSES, 2016

	Any Pet	Dog	Cat	Bird	Horse
Race/Ethnicity	%	%	%	%	%
White	64.7%	44.2%	31.8%	3.4%	0.9%
Latino/Hispanic	61.4%	44.6%	21.4%	4.2%	0.6%
Asian/Pacific/Native American/Aleutians/Eskimo	48.6%	29.8%	17.8%	2.2%	1.2%
African-American	36.9%	22.3%	10.7%	1.5%	0.2%

A photograph showing a person's hands petting a black and white cat and a small dog on a couch. The cat is in the foreground, looking towards the camera, while the dog is behind it. The person is wearing a light-colored long-sleeved shirt and dark pants.

chapter 2:

MULTIPLE-PET HOUSEHOLDS

Family households were more likely to own dogs (24.1%) or both dogs and cats (10.4%) than non-families (17.7% and 5.3%).

The highest rate of dog-only ownership was found among households with both spouses present (24.8%). Cat-only households were more likely to be households without males; 12.3% of female-headed families have both cats and dogs (but no other pets), and females living alone have the highest rate of cat-only ownership (15.7%). The lowest rate of cat-only ownership is among households where single males live with non-relatives (9.3%).

The sweet-spot household size for dog ownership is three persons. The highest rate of dog-only (26.4%) as well as dog and cat ownership (but no other pets) (12.4%) is three persons (S3_TAB 10). The highest rate of cat-only ownership is found among two-person households (13.2%).

The highest rate of dog-only ownership (25%) and the lowest rate of cat-only ownership (9.9%) is found among the highest income households (S3_TAB 11). Otherwise, dog and/or cat ownership rates are low among the lowest income households.

S3_TAB 9. PERCENT WHO OWNED DOGS ONLY, CATS ONLY, AND DOGS AND CATS ONLY, BY HOUSEHOLD TYPE, 2016

	Dog(s) Only	Cat(s) Only	Dog(s) And Cat(s) Only
Household Designation	%	%	%
Family	24.1%	11.0%	10.4%
Husband and Wife with or without Children	24.8%	11.1%	10.3%
Male, No Wife, with Children or Other Relatives	23.2%	10.0%	8.1%
Female, No Husband, with Children or Other Relatives	20.2%	10.9%	12.3%
Non-Family	17.7%	12.5%	5.3%
Male Living Alone	16.7%	10.3%	4.5%
Female Living Alone	17.8%	15.7%	5.0%
Male Living with Nonrelative	20.5%	9.3%	8.7%
Female Living with Nonrelative	23.2%	10.2%	11.5%

S3_TAB 10. PERCENT WHO OWNED DOGS ONLY, CATS ONLY, AND DOGS AND CATS ONLY, BY HOUSEHOLD SIZE, 2016

	Dog(s) Only	Cat(s) Only	Dog(s) And Cat(s) Only
Household Size	%	%	%
One Member	17.2%	12.7%	4.9%
Two Members	24.0%	13.2%	8.4%
Three Members	26.4%	11.4%	12.4%
Four Members	24.9%	7.9%	11.6%
Five or More Members	21.3%	7.2%	12.6%

S3_TAB 11. PERCENT WHO OWNED DOGS ONLY, CATS ONLY, AND DOGS AND CATS ONLY, BY HOUSEHOLD INCOME, 2016

	Dog(s) Only	Cat(s) Only	Dog(s) And Cat(s) Only
Household Income	%	%	%
Less than \$20,000	17.7%	11.2%	7.2%
\$20,000 to \$34,999	19.8%	13.3%	8.1%
\$35,000 to \$54,999	21.3%	12.2%	9.1%
\$55,000 to \$84,999	23.0%	11.7%	9.8%
\$85,000 or More	25.0%	9.9%	8.2%

chapter 3:

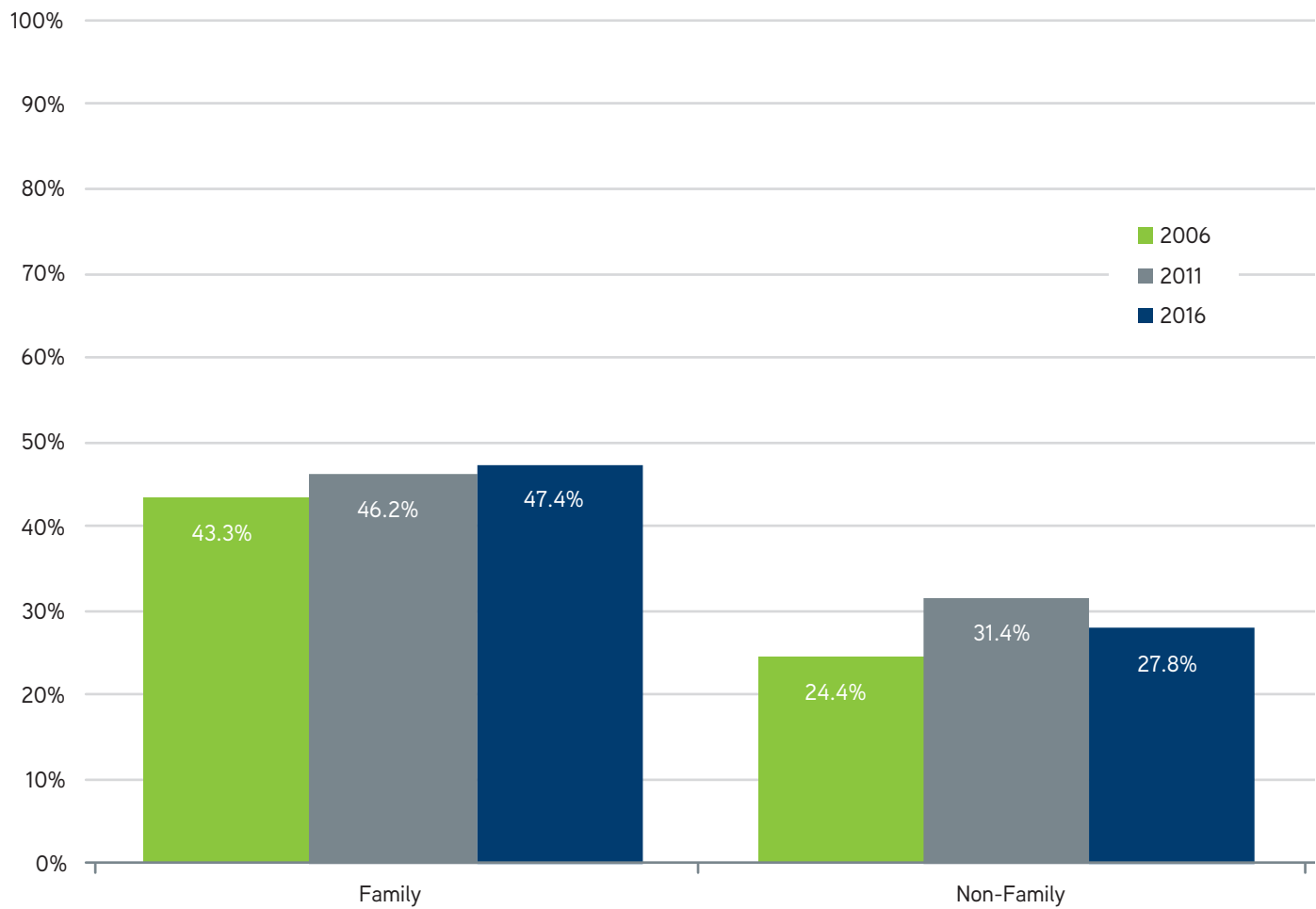
DOG-OWNING HOUSEHOLDS



Dog-ownership rates are higher among families (47.4%) than non-families (27.8%).

Dog-ownership rates are highest in family households (47.4%), but among non-family households, the rate is highest among those households in which females live with non-relatives (43.5%) and lowest among males living alone (25%) (S3_TAB 12).

S3_FIG 3. PERCENT WHO OWNED DOGS BY FAMILY/NON-FAMILY DESIGNATION, 2006–2016

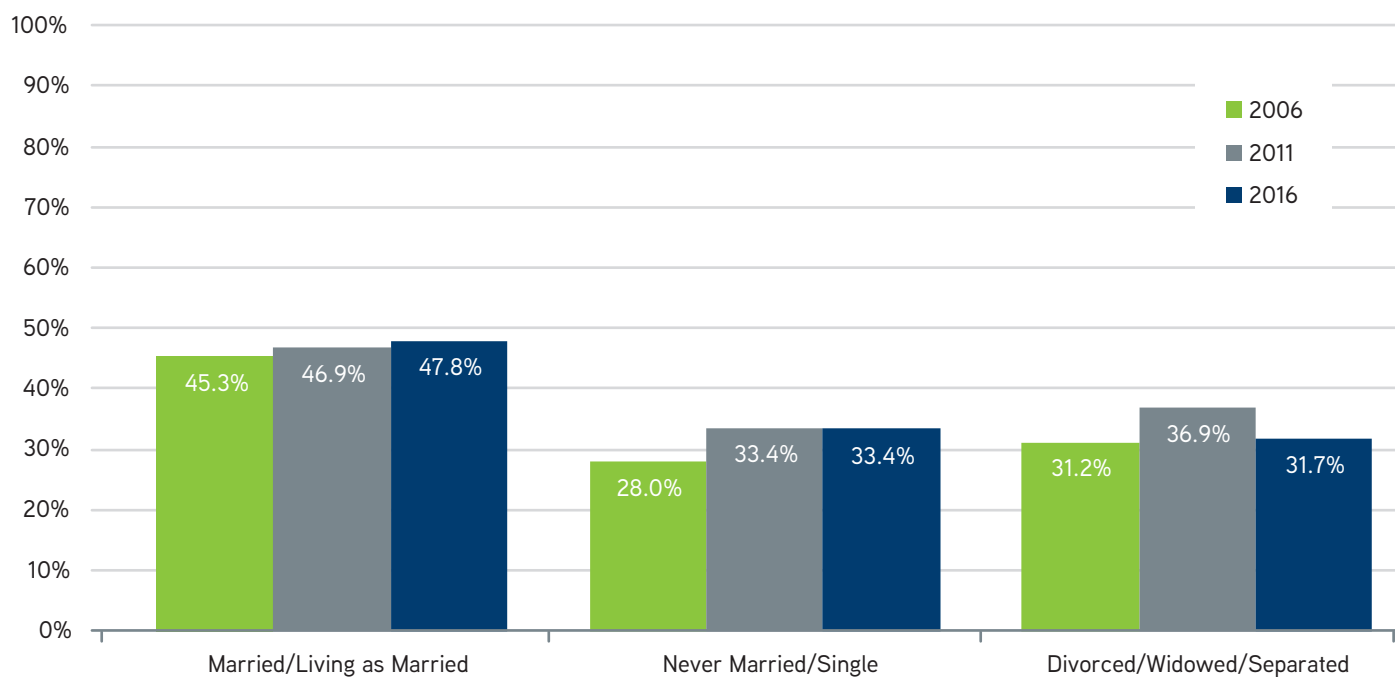


S3_TAB 12. PERCENT WHO OWNED DOGS BY HOUSEHOLD TYPE, 2006–2016

	2006	2011	2016
Household Designation	%	%	%
Family	43.3%	46.2%	47.4%
Husband and Wife with or without Children	44.5%	46.6%	47.8%
Male, No Wife, with Child and/or Other Relative Present	35.3%	41.5%	44.6%
Female, No Husband, with Child and/or Other Relative Present	40.3%	47.0%	46.3%
Non-Family	24.4%	31.4%	27.8%
Male Living Alone	17.8%	26.4%	25.0%
Female Living Alone	22.5%	31.3%	27.5%
Male Living with Non-Relative	37.8%	38.8%	36.4%
Female Living with Non-Relative	45.4%	41.2%	43.5%

A higher rate of dog ownership was found among married couples (47.8%) than among those never married (33.4%) or those divorced, widowed or separated (31.7%) (S3_FIG 4).

S3_FIG 4. PERCENT WHO OWNED DOGS BY MARITAL STATUS, 2006–2016



The highest rate of dog ownership (55.5%) continues to be among the largest households by size (S3_TAB 13). In 2016 only 26.5% of one-member households owned dogs, for example, compared to 55.5% of households with five or more members.

S3_TAB 13. PERCENT WHO OWNED DOGS BY HOUSEHOLDS' SIZE, 1991–2016

	1991	1996	2001	2006	2011	2016
Household Size	%	%	%	%	%	%
One Person	19.7%	17.0%	20.8%	21.9%	26.8%	26.5%
Two Persons	33.9%	29.8%	34.3%	37.6%	40.1%	39.9%
Three Persons	45.9%	42.8%	46.2%	47.5%	50.0%	52.2%
Four Persons	52.4%	49.3%	50.6%	51.9%	53.7%	53.8%
Five or More Persons	53.8%	49.7%	53.0%	54.3%	54.2%	55.5%

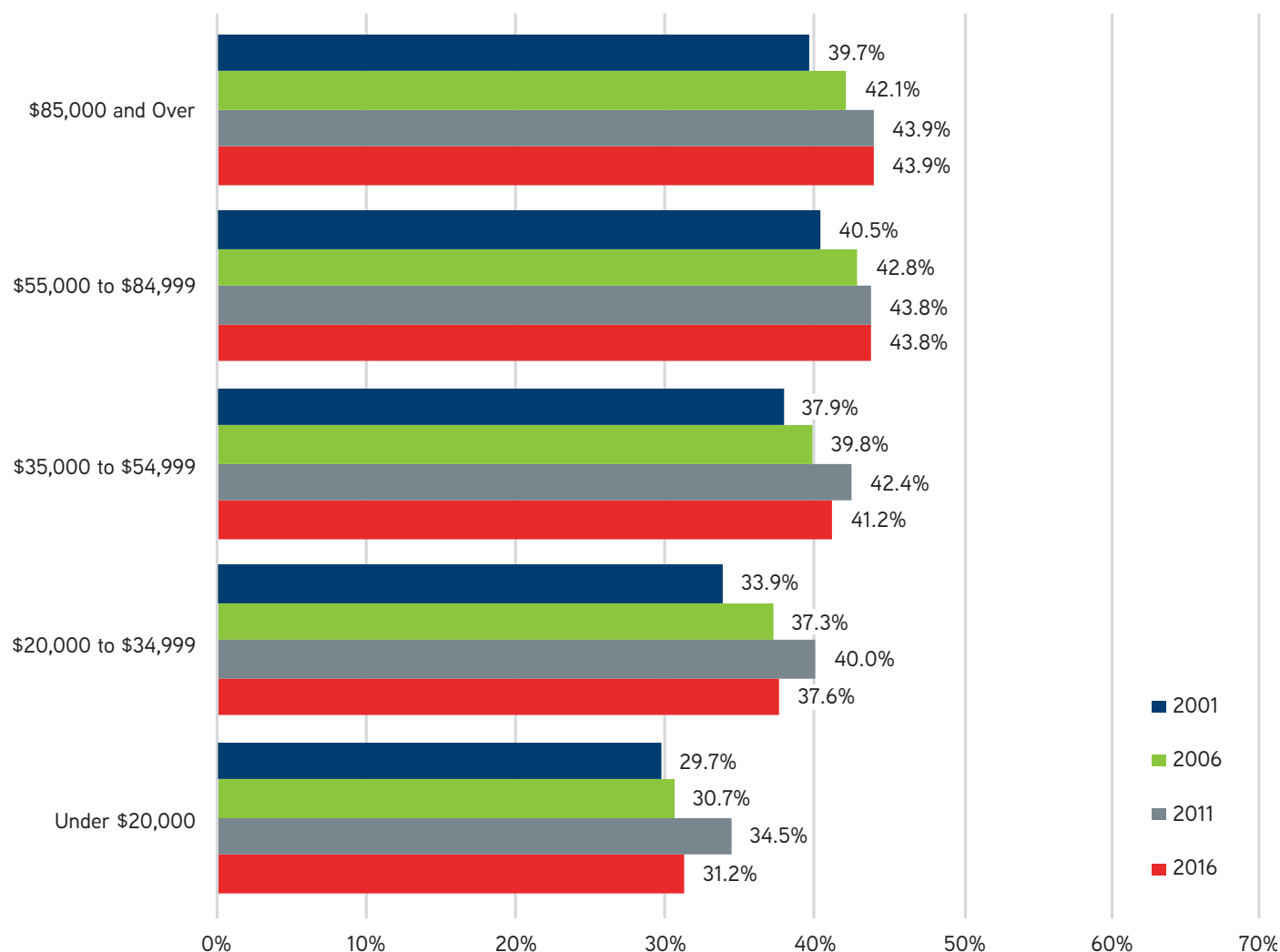
Solo (one-person) households are more likely to consider their dogs to be companions (17.8%) than any other size household (S3_TAB 14).

S3_TAB 14. PERCENT HUMAN-ANIMAL BOND RANKINGS BY DOG-OWNING HOUSEHOLDS BY SIZE, 2016

	We Consider Our Dog(s) to Be:		
	Family Member(s)	Companion(s)	Property Under Our Care
Household Size	%	%	%
All Dog Owners	85.1%	13.5%	1.4%
One Member	80.8%	17.8%	1.4%
Two Members	88.2%	10.6%	1.3%
Three Members	86.3%	12.8%	1.0%
Four Members	85.0%	13.1%	1.8%
Five or More Members	84.2%	14.1%	1.7%

In general, dog-ownership rates have been highest among the highest income households (S3_FIG 5). In 2016, however, the dog-ownership rate was also high (43.8%) among households with incomes between \$55,000 and \$85,000 per year.

S3_FIG 5. PERCENT WHO OWNED DOGS BY HOUSEHOLD INCOME, 2001–2016



The bonds people have with their dogs do not vary systematically with income (S3_TAB 15). The highest rate at which dogs are viewed as “companions” is found among the richest dog-owning households (16.2%), however, and the lowest rate at which they are viewed as “property under our care” is found among the poorest dog-owning households (1.1%).

S3_TAB 15. PERCENT HUMAN-ANIMAL BOND RANKINGS BY DOG-OWNING HOUSEHOLDS BY INCOME CATEGORY, 2016

	We Consider Our Dog(s) to Be:		
	Family Member	Pet/Companion	Property
Household Income	%	%	%
All Dog-Ownning Households	85.1%	13.5%	1.4%
Under \$20,000	88.2%	10.8%	1.1%
\$20,000 to \$34,999	85.8%	12.7%	1.5%
\$35,000 to \$54,999	87.0%	11.8%	1.2%
\$55,000 to \$84,999	84.9%	13.5%	1.6%
\$85,000 and over	82.3%	16.2%	1.5%

Dog-ownership rates in 2016 were highest among households in which the respondent had a high school diploma/GED (43.5%) and lowest among households where the respondent had a Ph.D. (29.3%)

S3_TAB 16. PERCENT WHO OWNED DOGS BY EDUCATION LEVEL, 2016

Education Level	Percentage Who Own Dogs
	%
Less than High School	40.6%
High School or GED	43.5%
Some College But No Degree	40.0%
Associate Degree	40.3%
Bachelor’s Degree	41.1%
Master’s Degree (MA, MS, MBA, etc.)	33.8%
Professional Degree (JD, MD, DVM, etc.)	36.3%
Ph.D.	29.3%

Households who owned their home continue to be more likely to own a dog (45.3%) than those who rent (32.3% in 2016) (S3_TAB 17).

S3_TAB 17. PERCENT WHO OWNED DOGS BY HOME OWNERSHIP STATUS, 1991–2016

	1991	1996	2001	2006	2011	2016
Home Ownership Status	%	%	%	%	%	%
Own Home	40.7%	36.2%	39.4%	42.1%	45.6%	45.3%
Rent	23.6%	22.2%	23.8%	26.7%	29.9%	32.3%
Other	38.4%	32.3%	39.4%	41.7%	42.1%	36.3%

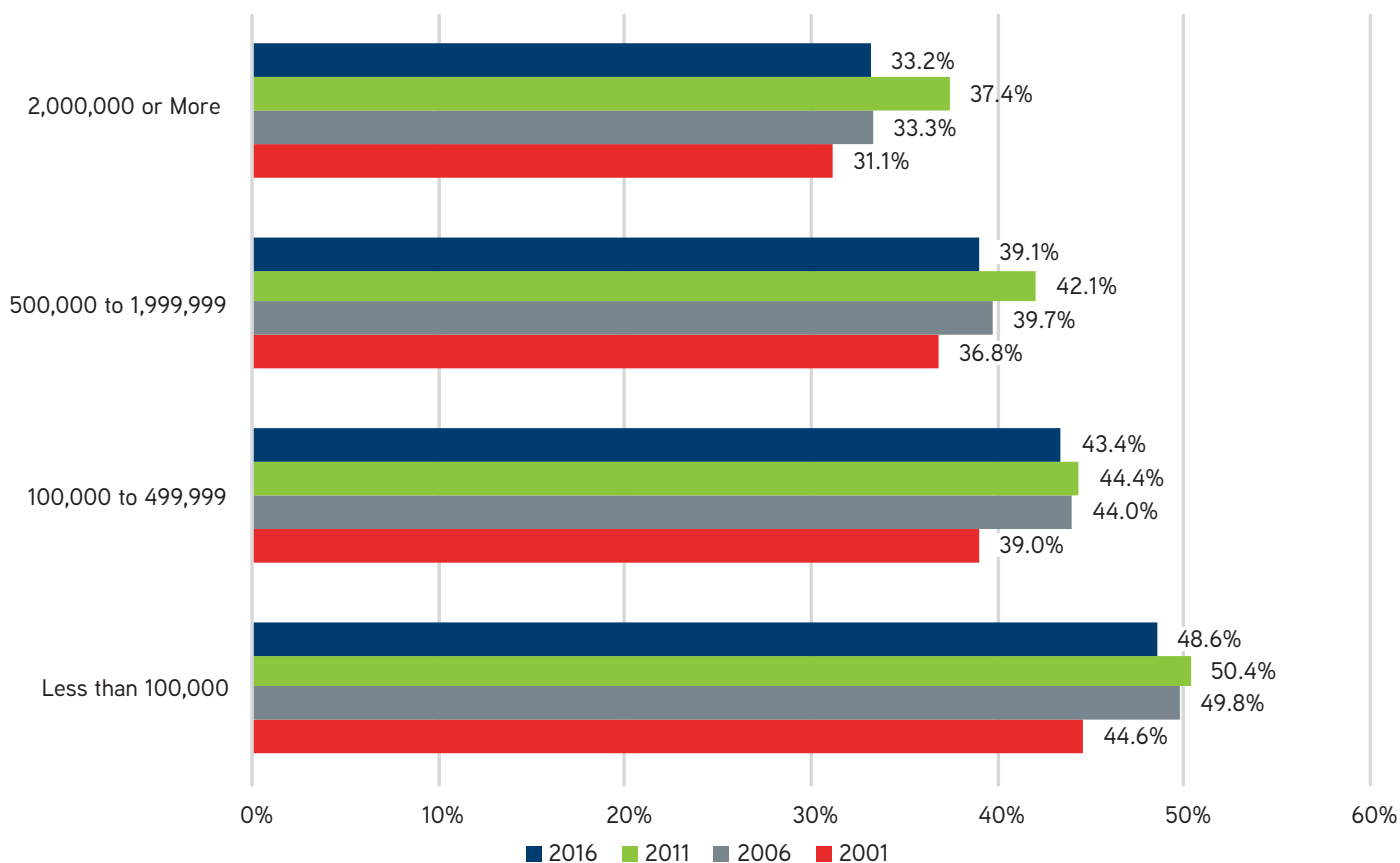
In 2016, the rates of dog ownership were twice as high among people who lived in mobile homes (53.3%) and houses (47.5%) compared to people in apartments or condominiums (21.2%) (S3_TAB 18).

S3_TAB 18. PERCENT WHO OWNED DOGS BY TYPE OF RESIDENCE, 2001–2016

	2001	2006	2011	2016
Type of residence	%	%	%	%
House	40.8%	43.2%	46.8%	47.5%
Apartment/condo	n/a	n/a	21.6%	21.2%
Mobile home	45.4%	50.2%	51.0%	53.3%
Other	24.8%	27.3%	29.0%	26.7%

Also following past trends, the highest rate of dog ownership (48.6%) is found among households in rural and small urban areas (S3_FIG 6). And the lowest rate of dog ownership is found in the largest urban areas (33.2%).

S3_FIG 6. PERCENT WHO OWNED DOGS BY COMMUNITY SIZE, 2001–2016



In 2016, at least four of five dog-owning households (85.1%) consider their dogs to be members of the family, and generally under 2% think of their dog as property under their care (S3_TAB 19). In general, however, a slightly higher share (15.6%) of African-American dog-owning households, think of their dogs as companions.

S3_TAB 19. PERCENT HUMAN-ANIMAL BOND RANKINGS BY DOG-OWNING HOUSEHOLD RACE/ETHNICITY, 2016

Race/Ethnicity	We Consider Our Dog(s) to Be:		
	Family Member	Companion/Pet	Property Under Our Care
All	85.1%	13.5%	1.4%
White	85.5%	13.3%	1.2%
Latino/Hispanic	85.3%	13.1%	1.6%
African-American	81.3%	15.6%	3.1%
Asian/Pacific Islander/American Indian/Eskimo	84.8%	13.4%	1.8%



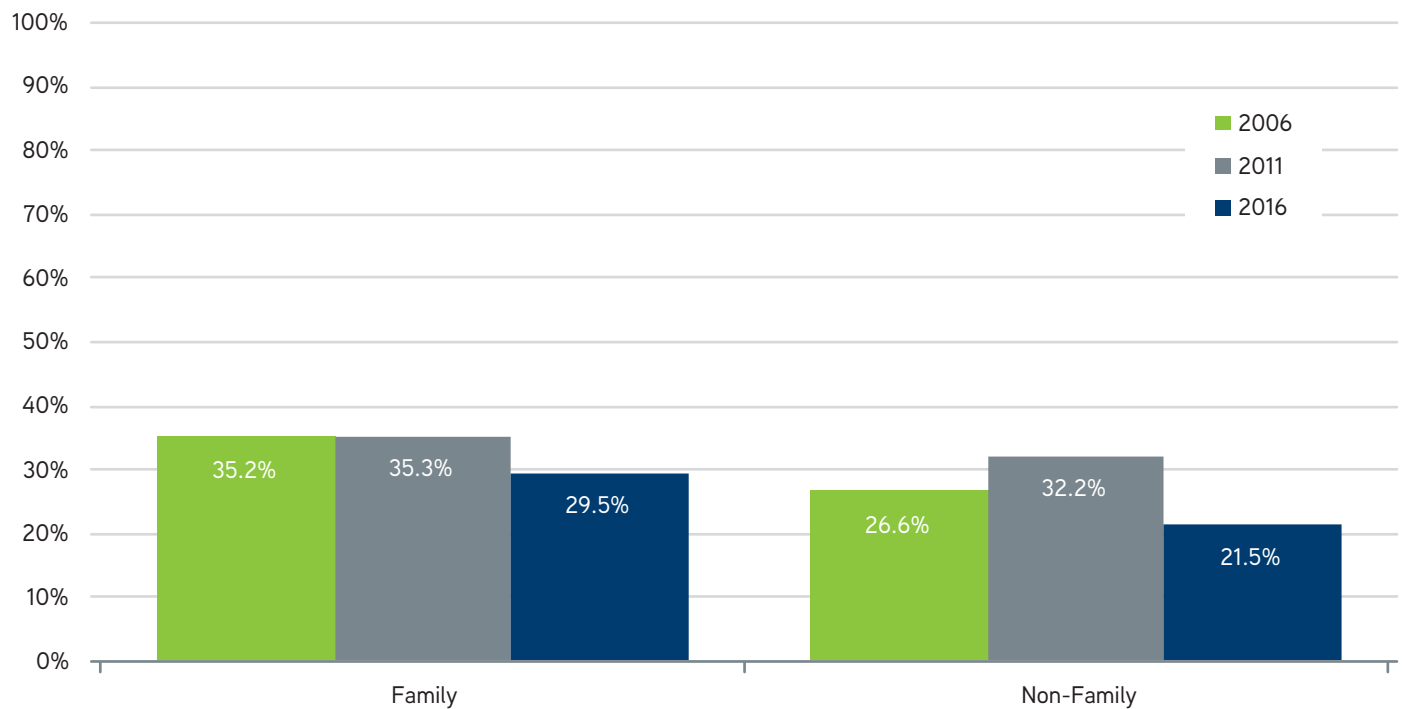
chapter 4:

CAT-OWNING HOUSEHOLDS

Cat ownership rates also continue to be higher among families (29.5%) than among non-families.

As discussed in Section 1, Chapter 4, compared to 2006 and 2011, the rate of cat ownership has fallen. One reason for the lower estimate of the rate of cat ownership is because the 2017 PDS sample is not gender-biased. As S3_TAB 20 shows, the highest rates of cat ownership have always been found among female-headed households. In 2016, 32.7% of female-headed families owned cats, compared to 29.5% of families in general. And 27.2% of non-family households with a female living with non-relatives owned cats, compared to 21.5% of non-family households in general (S3_TAB 20). The rates of cat ownership were highest among those categories of the two types of households in 2011 and 2006, as well. Surveys—like the 2017 PDS—that sample females and males at the rates they represent in the population more accurately estimate the true rates of cat ownership.

S3_FIG 7. PERCENT WHO OWNED CATS BY HOUSEHOLD DESIGNATION, 2006–2016

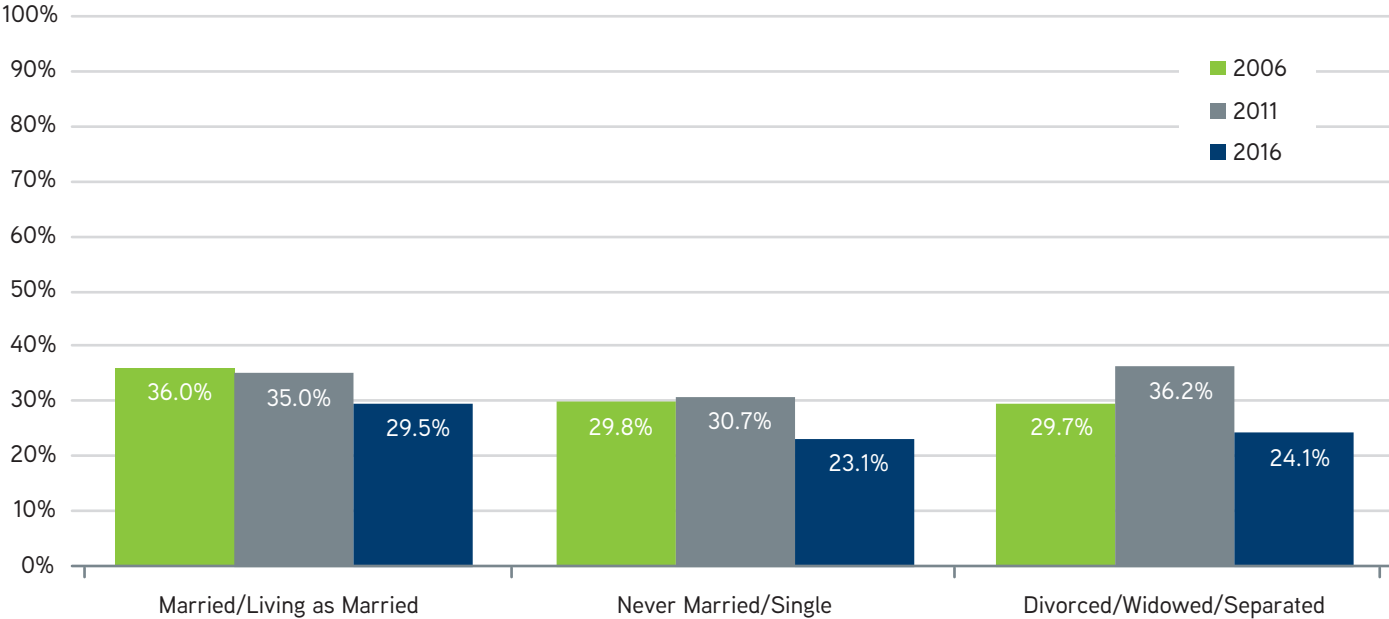


S3_TAB 20. PERCENT WHO OWNED CATS BY HOUSEHOLD TYPE, 2006–2016

	2006	2011	2016
Household Type	%	%	%
Family	35.2%	35.3%	29.5%
Husband and Wife with or without Children	35.5%	35.6%	29.4%
Male, No Wife, with Child and/or Other Relatives	27.0%	28.4%	26.4%
Female, No Husband, with Child and/or Other Relatives	35.7%	37.2%	32.7%
Non-Family	26.6%	32.2%	21.5%
Male Living Alone	18.0%	23.6%	17.7%
Female Living Alone	27.3%	34.8%	24.6%
Male Living with Non-Relative	35.1%	28.5%	23.4%
Female Living with Non-Relative	43.5%	42.1%	27.2%

In 2016, the highest rate of cat ownership is found among persons who were married or living as married (29.5%), compared to those never married (23.1%) or separated (24.1%) (S3_FIG 8).

S3_FIG 8. PERCENT OF HOUSEHOLDS BY MARITAL STATUS WHO OWNED CATS, 2006–2016



The highest rate of cat ownership (32.7%) also continues to be found among the largest households by size (S3_TAB 21). For example, in 2016 only 20.9% of one-member households owned cats, compared to 32.7% of households with five or more members.

S3_TAB 21. PERCENT WHO OWNED CATS BY HOUSEHOLD SIZE, 1991–2016

	1991	1996	2001	2006	2011	2016
Household Size	%	%	%	%	%	%
One Member	20.9%	18.7%	23.5%	24.7%	29.8%	20.9%
Two Members	29.2%	27.0%	31.3%	33.4%	34.6%	27.1%
Three Members	37.3%	35.6%	37.4%	39.1%	38.3%	32.6%
Four Members	39.4%	36.5%	38.2%	38.5%	34.9%	29.8%
Five or More Members	41.0%	38.1%	39.7%	40.0%	38.1%	32.7%

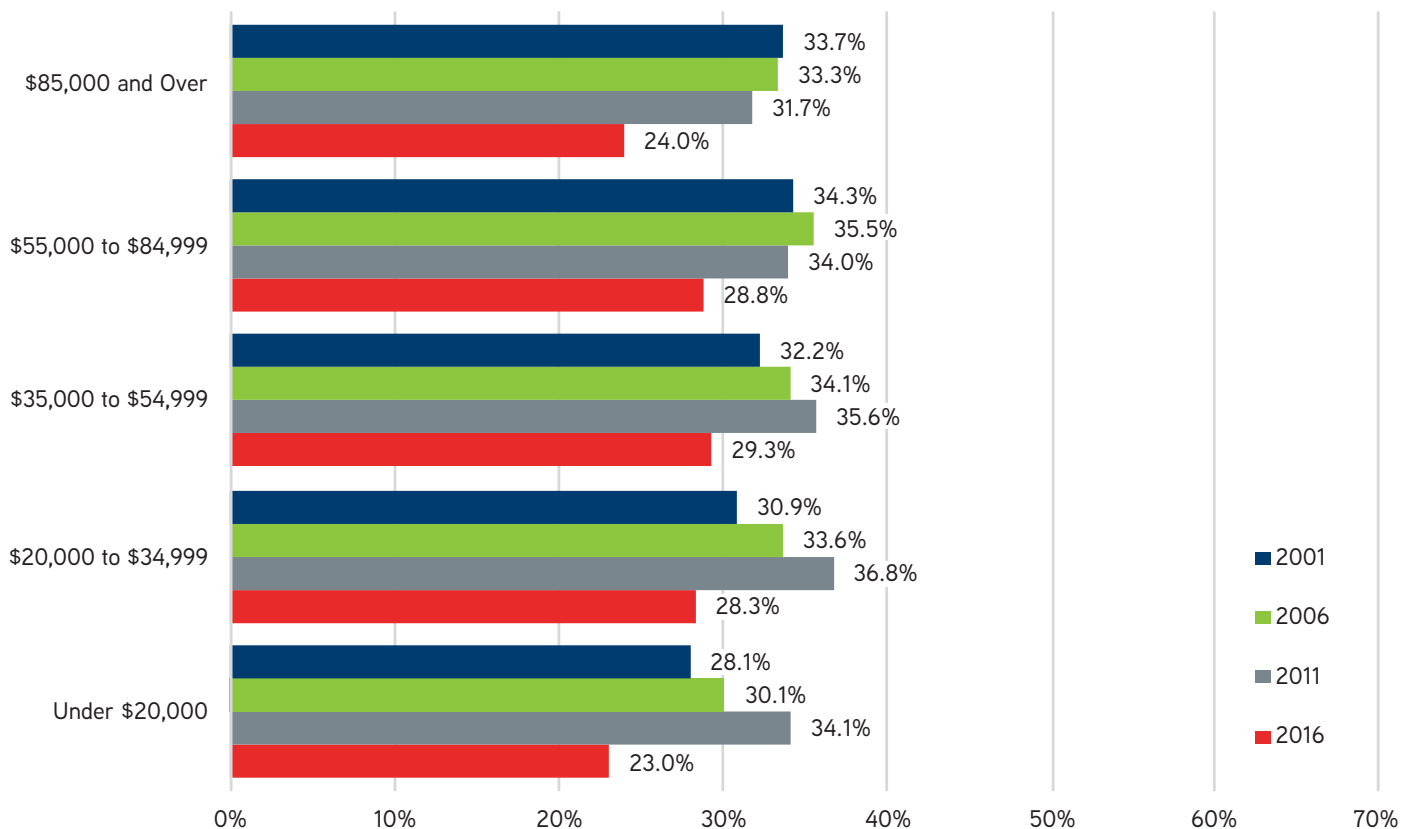
Although three-quarters (76.5%) of cat-owning households in general consider their cats to be family members, solo (one-person) households are more likely to consider their cats to be companions (23.9%) than any other size household (S3_TAB 22). This was also observed among dog-owning households.

S3_TAB 22. PERCENT HUMAN-ANIMAL BOND RANKINGS BY CAT-OWNING HOUSEHOLD SIZE, 2016

	We Consider Our Cat(s) to Be		
	Family Member	Companion	Property Under Our Care
Household Size	%	%	%
All Cat Owners	76.5%	20.1%	3.5%
One Member	73.3%	23.9%	2.9%
Two Members	79.2%	17.0%	3.8%
Three Members	78.2%	18.5%	3.3%
Four Members	74.8%	21.1%	4.0%
Five or More Members	76.3%	20.1%	3.6%

Cat-ownership rates in 2016 were lowest among the poorest (23%) and the richest (24%) households (S3_FIG 9). The highest rate of cat ownership (29.3%) was found among households with incomes between \$35,000 and \$55,000 year.

S3_FIG 9. PERCENT OF HOUSEHOLDS BY INCOME WHO OWNED CATS, 2001–2016



Households with the lowest incomes were more likely to consider their cats to be family members (79.5%) than households with the highest incomes (73.1%) in 2016 (S3_TAB 23). The highest rate of cats as “companions” is found among the wealthiest households (23.4%).

S3_TAB 23. PERCENT HUMAN-ANIMAL BOND RANKINGS BY CAT-OWNING HOUSEHOLD INCOME, 2016

	We Consider Our Cat(s) to Be:		
	Family Member	Companion	Property
Household Income	%	%	%
All Cat Owners	76.5%	20.1%	3.5%
Under \$20,000	79.5%	17.1%	3.4%
\$20,000 to \$34,999	77.2%	19.1%	3.7%
\$35,000 to \$54,999	79.8%	17.6%	2.5%
\$55,000 to \$84,999	74.8%	21.0%	4.1%
\$85,000 and Over	73.1%	23.4%	3.5%

Cat-ownership rates in 2016 are generally higher among persons who do not have four-year college degrees (S3_TAB 24). Cat-ownership rates were highest among households in which the respondent had an Associate’s degree (30%) and lowest among households where the respondent had a Ph.D. (17.3%).

S3_TAB 24. PERCENT OF HOUSEHOLDS BY EDUCATION LEVEL WHO OWNED CATS, 2016

Education Level	Percent who owned cats
	%
Less than High School	27.3%
High School or GED	27.3%
Some College But No Degree	27.8%
Associate's Degree	30.0%
Bachelor's Degree	25.3%
Master's Degree (MA, MEd, MBA, etc.)	21.7%
Professional Degree (JD, MD, DVM, etc.)	20.5%
Ph.D.	17.3%

As usual, cat-ownership rates are highest among homeowners (28.7%) (S3_TAB 25).

S3_TAB 25. PERCENT OF HOUSEHOLDS BY HOME OWNERSHIP STATUS WHO OWNED CATS, 1991–2016

	1991	1996	2001	2006	2011	2016
Home Ownership Status	%	%	%	%	%	%
Own Home	31.8%	29.2%	32.6%	34.4%	35.3%	28.7%
Rent	28.4%	26.0%	28.5%	30.3%	31.7%	23.7%
Other	32.3%	29.7%	32.7%	32.9%	35.0%	22.3%

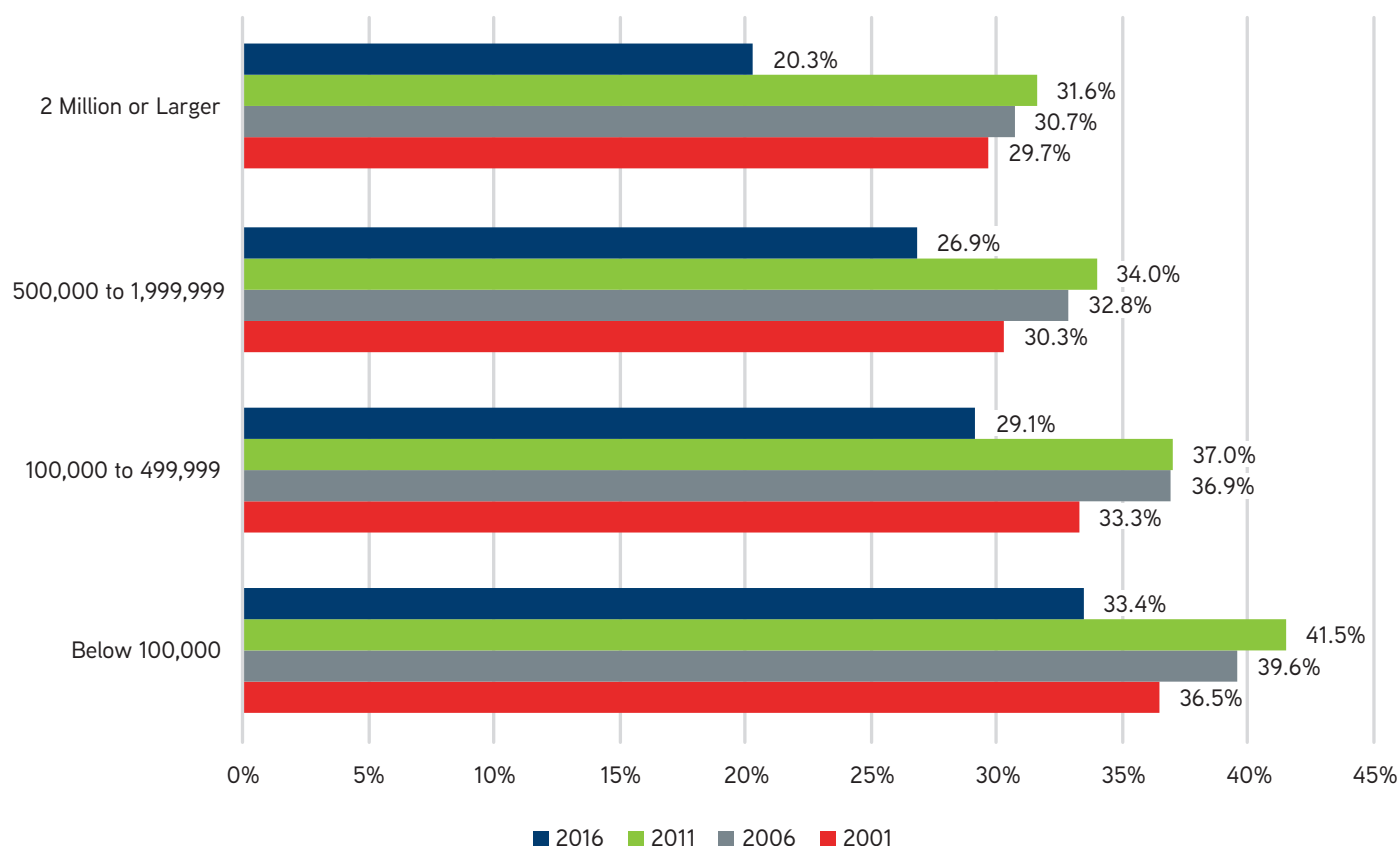
Also as usual, cat-ownership rates were higher among people who lived in mobile homes (37.1%) or in houses (28.8%) than among those living in apartments/condominiums (20.2%) or other types of residences (19.3%) (S3_TAB 26).

S3_TAB 26. PERCENT OF HOUSEHOLDS BY TYPE OF RESIDENCE WHO OWNED CATS, 2001–2016

	2001	2006	2011	2016
Type Of Residence	%	%	%	%
House	33.2%	34.6%	35.4%	28.8%
Apartment/Condo	N/A	N/A	28.2%	20.2%
Mobile Home	38.1%	41.4%	37.1%	37.1%
Other	22.3%	27.8%	31.7%	19.3%

Furthermore, the highest rate of cat ownership (33.4%) is also found among households in rural and small urban areas (S3_FIG 10), and the lowest rate of cat ownership is found in the largest urban areas (20.3%). Rural and smaller community rate of cat ownership is 65% higher than the rate in the largest urban communities. The large disparity in ownership rates between urban and rural requires sampling procedures that best represent the population distribution between rural and urban areas. See Appendix A for details about the rural-urban representativeness of the 2017 PDS.

S3_FIG 10. PERCENT OF HOUSEHOLDS BY COMMUNITY SIZE WHO OWNED CATS, 2001–2016



In 2016, three-quarters (76.5%) of cat owners considered their cats to be family members, while less than 5% considered them to be “property under their care.” Although the difference is insignificant, Asian/Pacific Islanders/American Indians/Aleutians/Eskimos are the least likely (73.9%) to consider their pets to be family members (S3_TAB 27).

S3_TAB 27. PERCENT HUMAN-ANIMAL BOND RANKINGS BY CAT-OWNING HOUSEHOLD RACE AND ETHNICITY, 2016

Race/Ethnicity	We Consider Our Cat(s) to Be:		
	Family Member	Companion	Property
	%	%	%
All Cat Owners	76.5%	20.1%	3.5%
White	76.8%	20.0%	3.2%
Latino/Hispanic	77.1%	18.4%	4.5%
African-American	74.1%	20.5%	5.4%
Asian/Pacific Islander/ American Indian/Aleutians/ Eskimo	73.9%	21.3%	4.8%



chapter 5:

BIRD-OWNING HOUSEHOLDS



Bird-ownership rates continue to be slightly higher among families (3.4%) compared to non-families (2.4%).

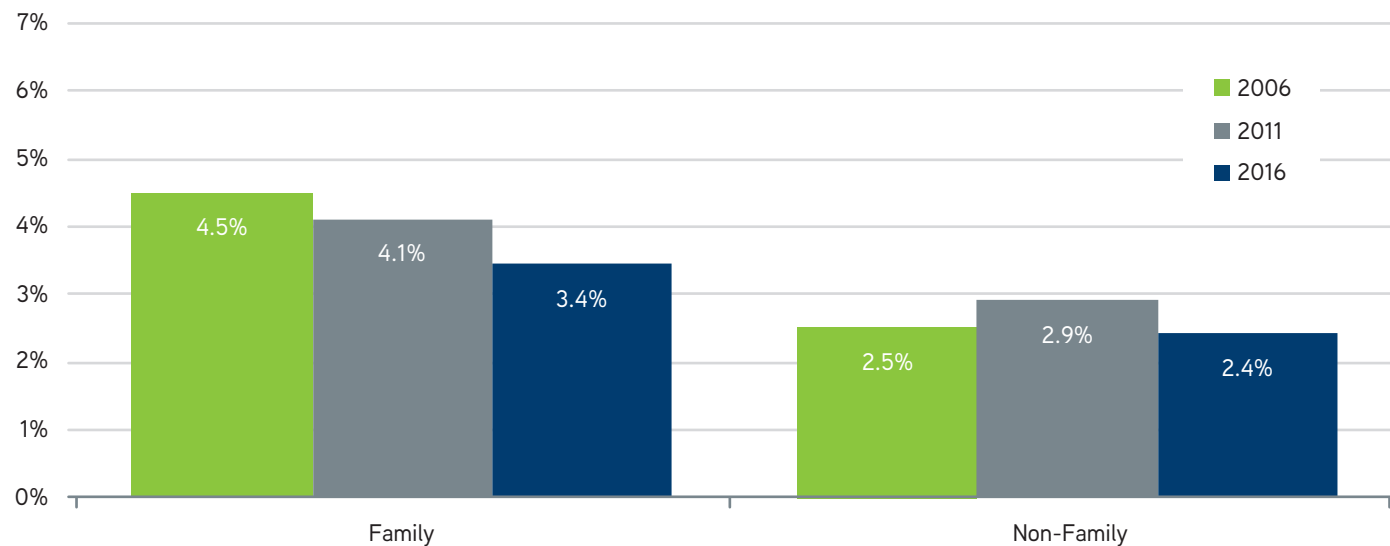
Bird-ownership rates are generally higher in family households (3.4%), particularly in single-dad households (4.8%) (S3_TAB 28). However, the bird-ownership rate is highest in non-family households in which females live with non-relatives (4.9%), and lowest in those where males live with non-relatives (1.6%) or males live alone (1.8%).

Bird ownership rates were highest among married couples (3.3%) and lowest among those divorced, widowed or separated (2.6%) (S3_FIG 12).

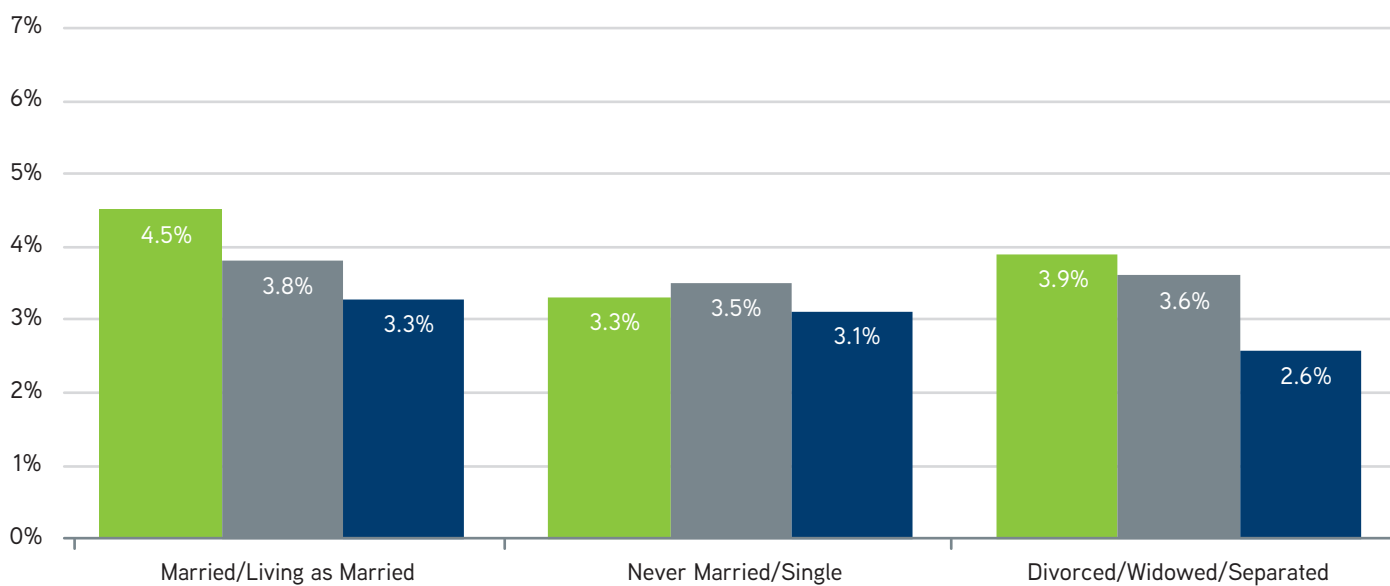
S3_TAB 28. PERCENT OF HOUSEHOLDS BY TYPE WHO OWNED BIRDS, 2006–2016

	2006	2011	2016
Household Designation	%	%	%
Family	4.5%	4.1%	3.4%
Husband and Wife with or without Children	4.3%	3.7%	3.3%
Male, No Wife, With Child and/or Other Relative Present	3.3%	3.8%	4.8%
Female, No Husband, with Child and/or Other Relative Present	5.6%	4.9%	3.6%
Non-Family	2.5%	2.9%	2.4%
Male Living Alone	1.3%	2.3%	1.8%
Female Living Alone	2.4%	3.2%	2.8%
Male Living with Non-Relative	4.5%	3.0%	1.6%
Female Living with Non-Relative	5.2%	3.0%	4.9%

S3_FIG 11. PERCENT OF HOUSEHOLDS WHO OWNED BIRDS BY HOUSEHOLD DESIGNATION, 2006–2016



S3_FIG 12. PERCENT OF HOUSEHOLDS BY MARITAL STATUS WHO OWNED BIRDS, 2006-2016



Overall, as household size increases, the likelihood of owning a pet bird also increases (S3_TAB 29). For example, 2.4% of one-member households owned birds, compared to 5.2% of households with five or more members. Notably, the rate of bird ownership among the largest households has fallen over the last two decades, from 10.7% in 1991 to 5.2% in 2016.

S3_TAB 29. PERCENT OF HOUSEHOLDS BY SIZE WHO OWNED BIRDS, 1991–2016

	1991	1996	2001	2006	2011	2016
Household Size	%	%	%	%	%	%
One Member	3.4%	2.5%	2.8%	2.1%	2.6%	2.4%
Two Members	4.5%	4.2%	4.0%	3.9%	3.2%	2.6%
Three Members	6.9%	6.3%	5.9%	5.1%	4.2%	3.2%
Four Members	8.6%	8.2%	6.3%	5.4%	4.3%	4.0%
Five or More Members	10.7%	9.4%	8.3%	6.6%	6.8%	5.2%

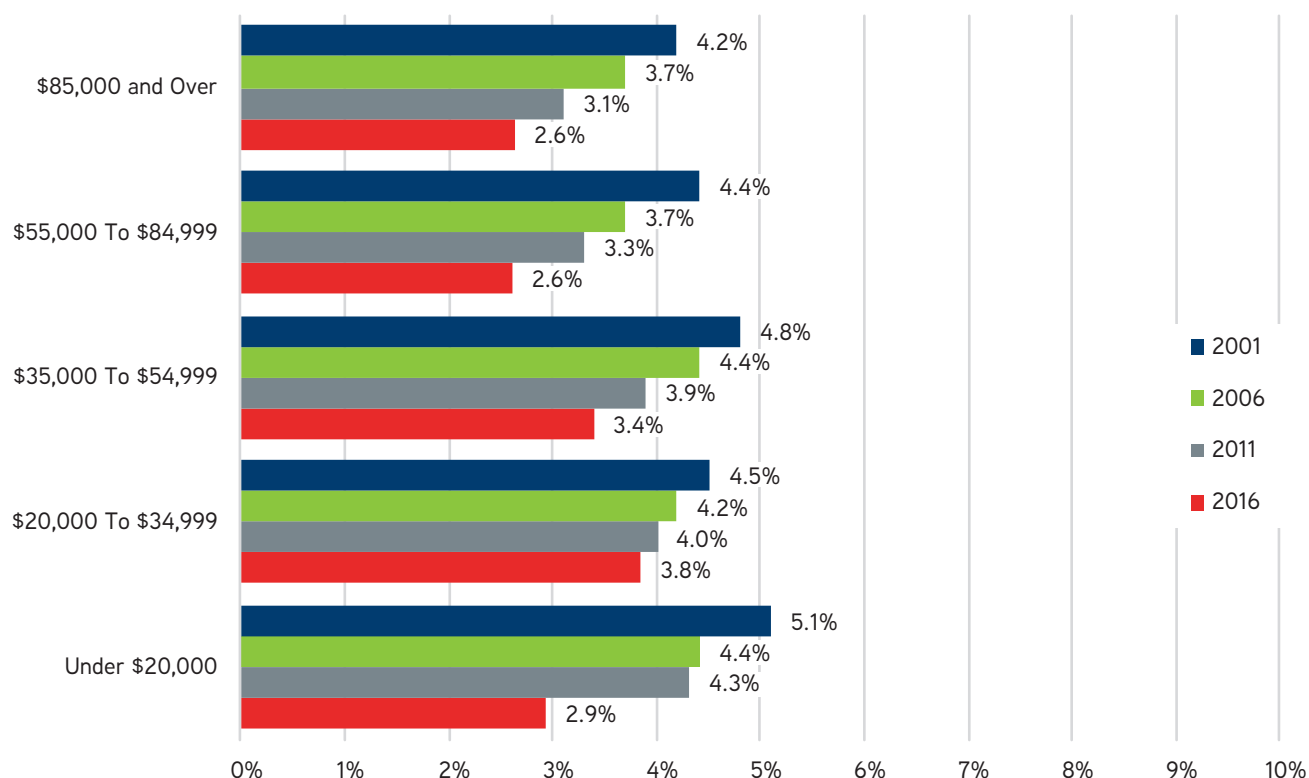
A majority of bird-owning households (57%) consider their pet birds to be family (S3_TAB 30). The lowest rate of “family member” pet birds is found among the largest households (46.2%). Instead, those largest households consider their pet birds as property under their care at the highest rate (13.7%). The second highest rate of ranking pet birds as “companions” is found among one-member households (36.7%).

S3_TAB 30. PERCENT HUMAN-ANIMAL BOND RANKINGS BY BIRD-OWNING HOUSEHOLD SIZE, 2016

Household Size	We Consider Our Bird(s) to Be:		
	Family Member	Companion	Property
	%	%	%
All Bird Owners	57.0%	33.3%	9.6%
One Member	55.1%	36.7%	8.2%
Two Members	64.3%	26.0%	9.7%
Three Members	61.4%	29.9%	8.6%
Four Members	57.2%	34.7%	8.2%
Five or More Members	46.2%	40.2%	13.7%

Bird-ownership rates have been slightly negatively correlated with household income (S3_FIG 13). However, in 2016 the bird-ownership rate was also lower (2.9%) among the poorest households who had annual household incomes below \$20,000.

S3_FIG 13. PERCENT OF HOUSEHOLDS BY INCOME WHO OWNED BIRDS, 2001–2016



The bond people have with their pet birds does not appear to vary systematically with income (S3_TAB 31). However, the highest rate at which birds are viewed as “companions” is found among the richest bird-owning households (35.5%) and the lowest rate at which they are viewed as “property under our care” is found among the poorest bird-owning households (4.8%).

S3_TAB 31. PERCENT HUMAN-ANIMAL BOND RANKINGS BY BIRD-OWNING HOUSEHOLD INCOME, 2016

Household Income	We Consider Our Bird(s) to Be:		
	Family Member	Companions	Property
	%	%	%
All Bird Owners	57.0%	33.3%	9.6%
Less than \$20,000	63.0%	32.3%	4.8%
\$20,000 to \$34,999	55.6%	35.0%	9.4%
\$35,000 to \$54,999	61.5%	29.3%	9.1%
\$55,000 to \$84,999	57.0%	33.2%	9.8%
\$85,000 or More	61.0%	35.5%	13.5%

Bird-ownership rates in 2016 were highest among the least-educated households (4.2%) and lowest among households where the respondent had a Ph.D. (1.2%) (S3_TAB 32).

S3_TAB 32. PERCENT WHO OWNED BIRDS BY EDUCATION LEVEL, 2016

Education Level	Percent Who Owned Birds
	%
Less than High School	4.2%
High School or GED	3.5%
Some College But No Degree	3.1%
Associate's Degree	2.9%
Bachelor's Degree	2.3%
Master's Degree (MA, MS, MBA, etc.)	2.0%
Professional Degree (JD, MD, DVM, etc.)	2.5%
Ph.D.	1.2%

As with dogs and cats, bird-ownership rates are highest among homeowners (S3_TAB 33).

S3_TAB 33. PERCENT WHO OWNED BIRDS BY HOME OWNERSHIP STATUS, 1991–2011

	1991	1996	2001	2006	2011	2016
Home Ownership Status	%	%	%	%	%	%
Owned Own Home	5.5%	5.0%	4.6%	4.1%	3.8%	3.3%
Rented	6.4%	5.5%	4.7%	4.0%	3.3%	2.6%
Other	7.0%	5.8%	5.2%	3.8%	4.5%	2.9%

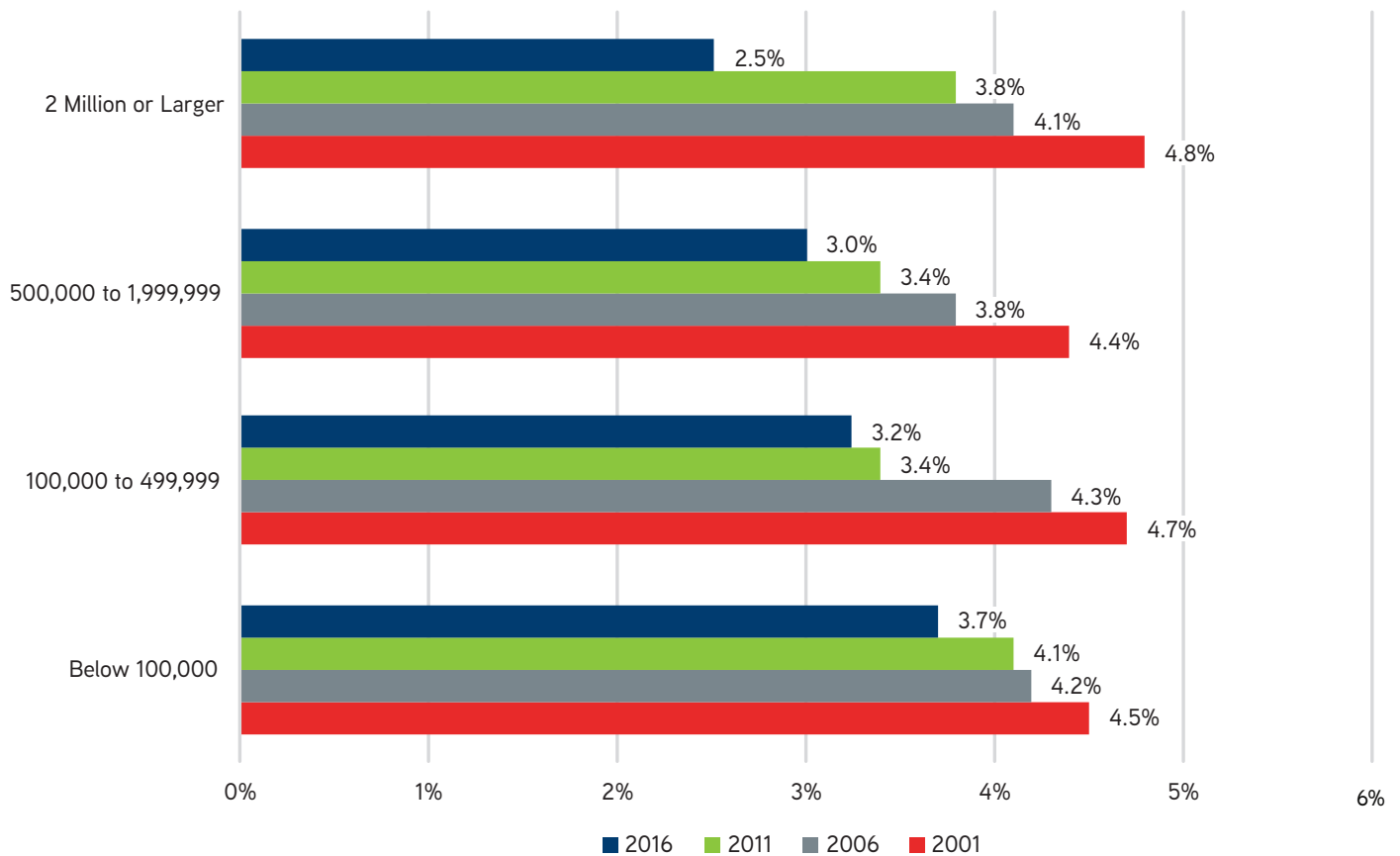
Bird-ownership rates were likewise highest among those living in mobile homes (5.2%), and lowest among those in apartments/condos (2.4%) and other types of residences (1.3%) (S3_TAB 34).

S3_TAB 34. PERCENT WHO OWNED BIRDS BY TYPE OF RESIDENCE, 2001–2016

	2001	2006	2011	2016
Type of Residence	%	%	%	%
House	4.7%	4.2%	3.9%	3.3%
Apartment/Condo	N/A	N/A	2.6%	2.4%
Mobile Home	6.5%	6.4%	5.9%	5.2%
Other	4.5%	3.2%	2.6%	1.3%

As with dog or cat ownership, the highest rate of bird ownership (4%) is now found among households in rural and small urban areas (S3_FIG 14). And the lowest rate of bird ownership is now found in the largest urban areas (3%).

S3_FIG 14. PERCENT WHO OWNED BIRDS BY COMMUNITY SIZE, 2001–2016



The most common (57%) human-animal bond reported by bird owners is that pet birds are considered “family members” (S3_TAB 35). However, among all racial categories, African-American bird-owning households are the least likely (41%) to consider their pet birds to be “family” and most likely to consider them as “property under their care” (21%); 38% of African-Americans and 39% of Native American/Asians/Pacific Islanders consider their pet birds to be “companions.”

S3_TAB 35. PERCENT HUMAN-ANIMAL BOND RANKINGS BY BIRD-OWNING HOUSEHOLD RACE AND ETHNICITY, 2016

Race/Ethnicity	We Consider Our Bird(s) to Be:		
	Family Member	Companion	Property
	%	%	%
All	57%	33%	10%
White	59%	32%	9%
Latino/Hispanic	55%	36%	9%
African-American	41%	38%	21%
Asian/Pacific Islander/American Indian/Aleut Eskimo	51%	39%	10%





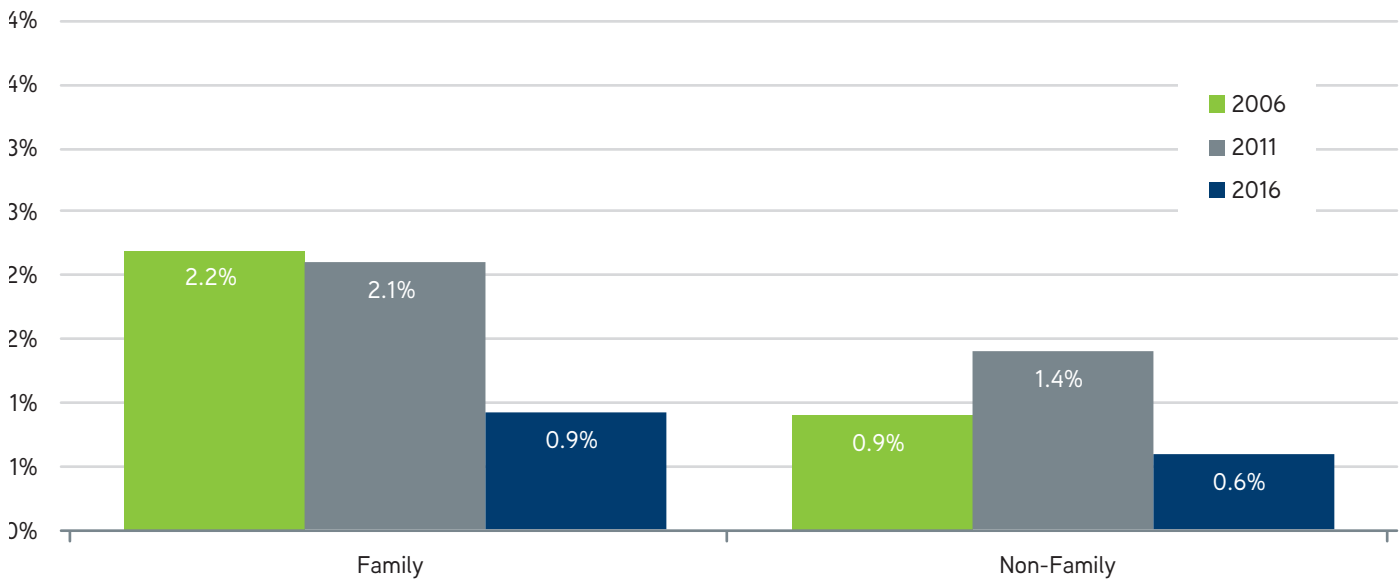
chapter 6:

HORSE-OWNING HOUSEHOLDS

Horse ownership was 50 percent higher among households categorized as family (0.9%) compared to non-family (0.6%) in 2016, following historical trends.

However, in contrast with historic pet horse ownership as well as dog or cat ownership, the highest pet horse ownership rates are not found among both-spouses-present families. According to both the 2017 and the 2012 PDS, female-headed households had the highest rate of pet horse ownership, at 1.2% in 2016. However, the lowest rates of pet horse ownership are among females living alone (0.5%) or females living with non-relatives (0.5%).

S3_FIG 15. PERCENT WHO OWNED HORSES BY HOUSEHOLD DESIGNATION, 2006–2016

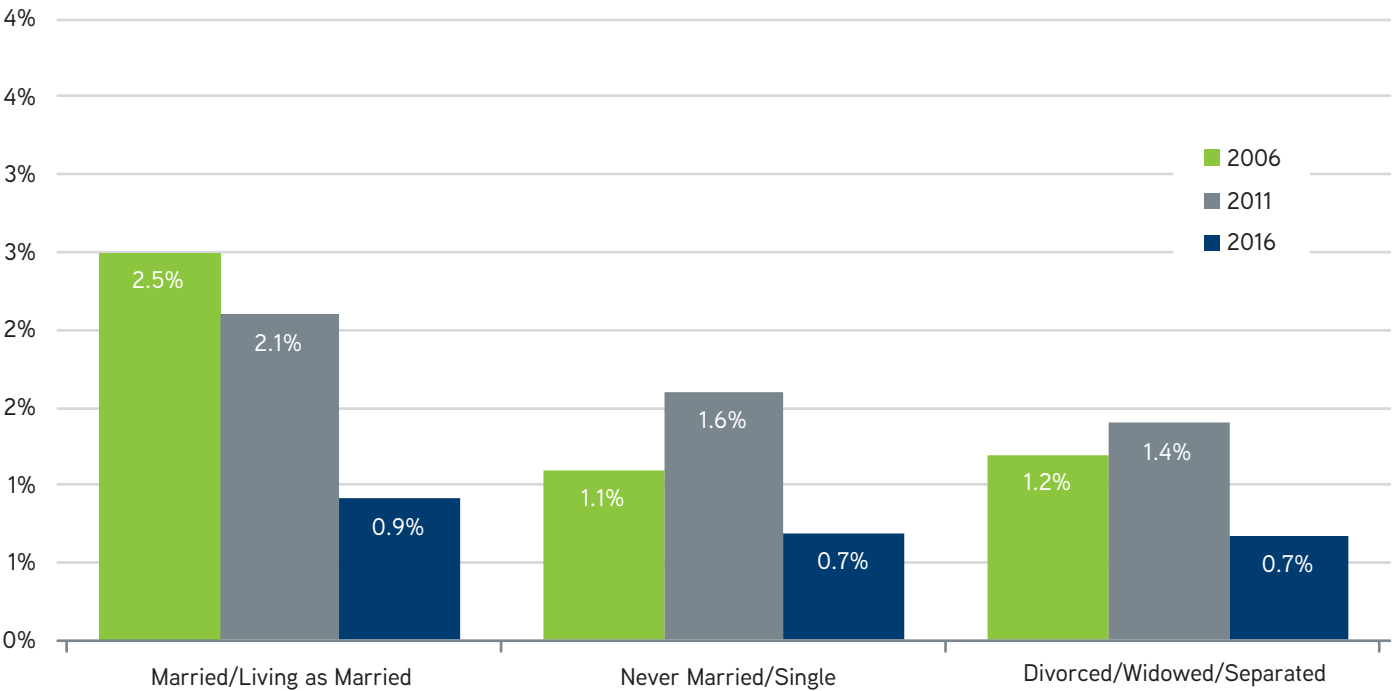


S3_TAB 36. PERCENT WHO OWNED HORSES BY HOUSEHOLD TYPE, 2006–2016

	2006	2011	2016
Household Type	%	%	%
Family	2.2%	2.1%	0.9%
Husband and Wife with or without Children	2.5%	2.1%	0.9%
Male, No Wife, with Children or Other Relatives	0.8%	1.6%	0.6%
Female, No Husband, with Children or Other Relatives	1.4%	2.2%	1.2%
Non-Family	0.9%	1.4%	0.6%
Male Living Alone	0.5%	1.3%	0.6%
Female Living Alone	0.9%	1.4%	0.5%
Male Living with Non-Relative	0.8%	1.4%	0.9%
Female Living with Non-Relative	2.4%	1.7%	0.5%

Abstracting from gender, however, pet horse ownership rates in 2016 were highest among married couples (0.9%). Those never married and those divorced, widowed or separated had slightly lower ownership rates (0.7%) (S3_FIG 16).

S3_FIG 16. PERCENT OF HOUSEHOLDS BY MARITAL STATUS WHO OWNED HORSES, 2006–2016



The likelihood of pet horse ownership in 2016 generally rises with household size following historical patterns (S3_TAB 37). For example, only 0.5% of one-member households compared to 1.3% of households with five or more members owned pet horses.

S3_TAB 37. PERCENT WHO OWNED HORSES AMONG HOUSEHOLDS BY SIZE, 1991–2016

	1991	1996	2001	2006	2011	2016
Household Size	%	%	%	%	%	%
One Member	0.7%	0.8%	0.7%	0.8%	1.3%	0.5%
Two Members	2.0%	1.4%	1.6%	1.7%	1.8%	0.8%
Three Members	2.5%	2.2%	2.2%	2.3%	2.2%	0.9%
Four Members	3.1%	2.5%	2.3%	2.7%	2.0%	0.8%
Five or More Members	3.5%	2.7%	3.2%	3.6%	2.6%	1.3%

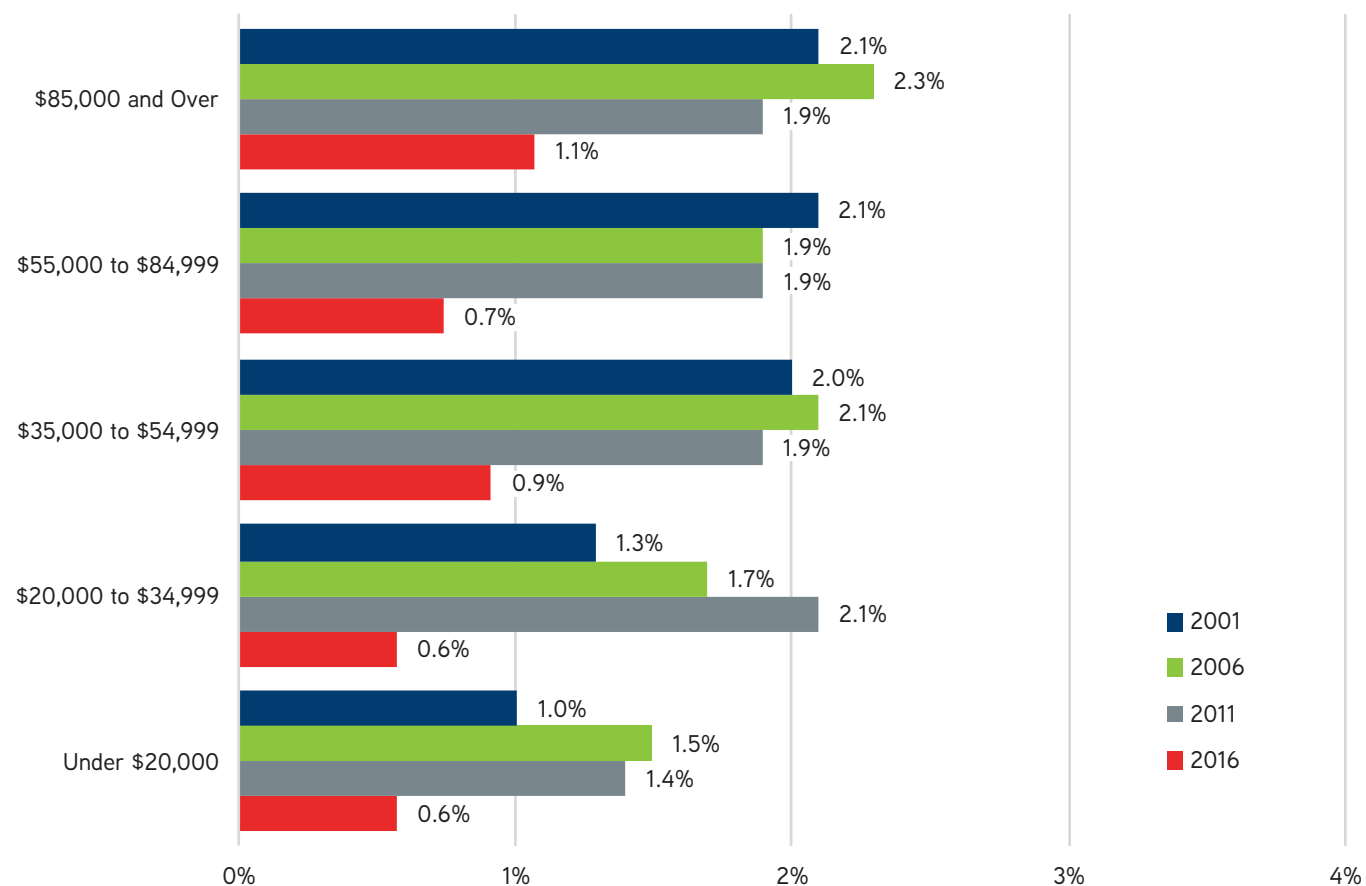
There is no systematic pattern in how owners in different size households view their pet horses (S3_TAB 38).

S3_TAB 38. PERCENT HUMAN-ANIMAL BOND RANKINGS BY HORSE-OWNING HOUSEHOLD SIZE, 2016

	We Consider Our Horse(s) To Be:		
	Family Member	Companion	Property
Household Size	%	%	%
All Horse Owners	47%	42%	11%
One Member	43.7%	40.1%	16.2%
Two Members	51.1%	40.3%	8.6%
Three Members	39.6%	48.0%	12.4%
Four Members	52.6%	41.3%	6.1%
Five or More Members	44.2%	42.7%	13.1%

The rate of pet horse ownership generally rises with household income (S3_Fig 17). The lowest rate of horse ownership (0.6%) is among those with a mean income below \$35,000, S3_Fig 17. The rate is almost twice as high (1.1%) among households with incomes over \$85,000.

S3_FIG 17. PERCENT WHO OWNED HORSES BY HOUSEHOLD INCOME, 2001–2016



There is also no systematic pattern in how owners at different income levels view their pet horses (S3_TAB 39).

S3_TAB 39. PERCENT HUMAN-ANIMAL BOND RANKINGS BY HORSE-OWNING HOUSEHOLD INCOME, 2016

	We Consider Our Horse(s) to Be:		
	Family Member	Companion	Property
Household Income	%	%	%
All	46.7%	41.9%	11.4%
Under \$20,000	47.2%	50.5%	2.3%
\$20,000 to \$34,999	42.0%	43.4%	14.6%
\$35,000 to \$54,999	55.1%	28.4%	16.5%
\$55,000 to \$84,999	47.7%	47.7%	4.6%
\$85,000 and Over	43.6%	41.7%	14.7%

Households with at least one person with a Ph.D. owned pet horses in 2016 at twice the rate of households in general (1.5% compared to 0.8%) (S3_TAB 40). And households with at least one professional also owned pet horses at higher than average rates in 2016 (1.3%).

S3_TAB 40. PERCENTAGE OF HOUSEHOLDS WHO OWNED HORSES BY EDUCATION LEVEL OF THE HEAD OF HOUSEHOLD, 2016

Education Level	Percent Who Owned Horses
	%
Less than High School	0.7%
High School or GED	0.6%
Some College But No Degree	1.0%
Associate's Degree	0.9%
Bachelor's Degree	0.7%
Master's Degree (MA, MS, MBA, etc.)	0.7%
Professional Degree (JD, MD, DVM, etc.)	1.3%
Ph.D.	1.5%

Horse-ownership rates were also higher among home owners (0.9%) versus renters (0.5%) in 2016 (S3_TAB 41).

S3_TAB 41. PERCENT WHO OWNED HORSES BY HOME OWNERSHIP STATUS, 1991–2016

	1991	1996	2001	2006	2011	2016
Home Ownership Status	%	%	%	%	%	%
Owned Own Home	2.3%	1.8%	1.9%	2.1%	2.1%	0.9%
Rented	1.0%	0.9%	0.9%	1.1%	1.0%	0.5%
Other	5.5%	1.6%	1.7%	2.5%	2.0%	1.5%

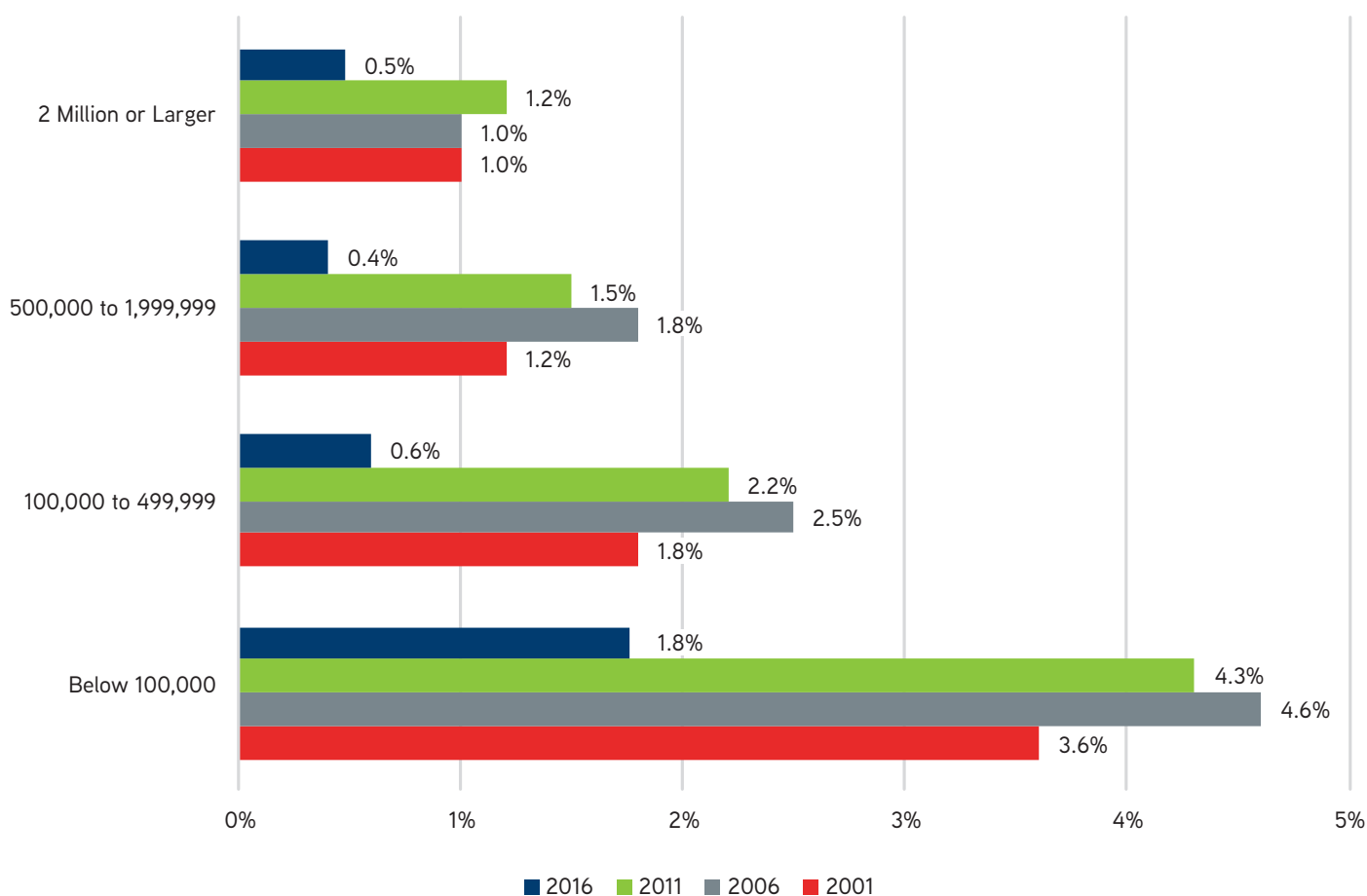
In 2016, people who lived in mobile homes (2.3%) were more likely to own horses compared to those living in apartments/condos (0.3%), houses (0.9%) or other types of residences (S3_TAB 42).

S3_TAB 42. PERCENT WHO OWNED HORSES BY TYPE OF RESIDENCE, 2001–2016

	2001	2006	2011	2016
Type of Residence	%	%	%	%
House	1.9%	2.1%	2.1%	0.9%
Mobile Home	3.0%	3.3%	3.9%	2.3%
Apartment/Condo	N/A	N/A	0.6%	0.3%
Other	1.9%	1.9%	1.0%	0.0%

The rate of horse ownership has long been about three times higher in rural areas compared to the rate of pet horse ownership among city households (S3_FIG 18). In 2016, 1.8% of households in rural and small urban areas (below 100,000 populations) owned pet horses, compared to 0.5% in cities of 2 million or more. Because pet horse ownership is higher in rural and small urban areas, it is important to survey rural and urban households at the rates they represent in the population. See Appendix A for details about the rural-urban representativeness of the 2017 PDS, and how it compares to other surveys.

S3_FIG 18. PERCENT WHO OWN HORSES BY COMMUNITY SIZE, 2001–2016



PET OWNER DEMOGRAPHICS: SUMMARY TABLES

S3_TAB 43. PERCENT OF HOUSEHOLDS BY TYPE WHO OWNED PETS, 2016

	Any Pets	Dog	Cat	Bird	Horse
Household Type	%	%	%	%	%
Family	66.6%	47.4%	29.5%	3.4%	0.9%
Husband and Wife with or without Children	66.8%	47.8%	29.4%	3.3%	0.9%
Male, No Wife, With Children or Other Relatives	64.7%	44.6%	26.4%	4.8%	0.6%
Female, No Husband, with Children or Other Relatives	66.9%	46.3%	32.7%	3.6%	1.2%
Non-Family	46.6%	27.8%	21.5%	2.4%	0.6%
Male Living Alone	42.0%	25.0%	17.7%	1.8%	0.6%
Female Living Alone	48.9%	27.5%	24.6%	2.8%	0.5%
Male Living with Non-Relative	52.4%	36.4%	23.4%	1.6%	0.9%
Female Living with Non-Relative	60.5%	43.5%	27.2%	4.9%	0.5%



S3_TAB 44. PERCENT OF HOUSEHOLDS BY SIZE, INCOME, HOME OWNERSHIP STATUS, TYPE OF RESIDENCE AND COMMUNITY SIZE WHO OWNED PETS, 2016

	Any Pets	Dog	Cat	Bird	Horse
Household Size	%	%	%	%	%
One Member	45.4%	26.5%	20.9%	2.4%	0.5%
Two Members	59.4%	39.9%	27.1%	2.6%	0.8%
Three Members	72.5%	52.2%	32.6%	3.2%	0.9%
Four Members	71.7%	53.8%	29.8%	4.0%	0.8%
Five or More Members	73.9%	55.5%	32.7%	5.2%	1.3%
Household Income					
Less than \$20,000	49.1%	31.2%	23.0%	2.9%	0.6%
\$20,000 to \$34,999	58.3%	37.6%	28.3%	3.8%	0.6%
\$35,000 to \$54,999	61.7%	41.2%	29.3%	3.4%	0.9%
\$55,000 to \$84,999	63.5%	43.8%	28.8%	2.6%	0.7%
\$85,000 or More	61.1%	43.9%	24.0%	2.6%	1.1%
Home Ownership Status					
Own Home	63.7%	45.3%	28.7%	3.3%	0.9%
Rent	53.0%	32.3%	23.7%	2.6%	0.5%
Other	52.5%	36.3%	22.3%	2.9%	1.5%
Type Of Residence					
House	43.1%	47.5%	20.2%	2.4%	0.3%
Apartment	65.8%	21.2%	28.8%	3.3%	0.9%
Mobile Home	73.8%	53.3%	37.1%	5.2%	2.3%
Condominium	42.8%	26.7%	19.3%	1.3%	0.0%
Community Size					
Below 100,000	67.1%	48.6%	33.4%	3.7%	1.8%
100,000 to 499,999	62.0%	43.4%	29.1%	3.2%	0.6%
500,000 to 1,999,999	60.3%	39.1%	26.9%	3.0%	0.4%
2 Million or Larger	51.6%	33.2%	20.3%	2.5%	0.5%

S3_TAB 45. PERCENT WHO OWNED PETS BY EDUCATION LEVEL, 2016

	Any Pets	Dogs	Cats	Birds	Horses
All Households	%	%	%	%	%
Less than High School	59.2%	40.6%	27.3%	4.2%	0.7%
High School or GED	60.4%	41.1%	27.3%	3.5%	0.6%
Some College But No Degree	60.5%	40.0%	27.8%	3.1%	1.0%
Associate's Degree	63.7%	43.5%	30.0%	2.9%	0.9%
Bachelor's Degree	58.3%	40.3%	25.3%	2.3%	0.7%
Master's Degree (MA, MS, MBA, etc.)	51.9%	33.8%	21.7%	2.0%	0.7%
Professional Degree (JD, MD, DVM, etc.)	53.6%	36.3%	20.5%	2.5%	1.3%
Ph.D.	43.8%	29.3%	17.3%	1.2%	1.5%

S3_TAB 46. PERCENT WHO OWNED PETS BY MARITAL STATUS, RACE AND ETHNICITY, 2016

	Any Pets	Dogs	Cats	Birds	Horses
Marital Status	%	%	%	%	%
Married	66.9%	47.8%	29.5%	3.3%	0.9%
Never Married	52.7%	33.4%	23.1%	3.1%	0.7%
Divorced, Widowed, Separated	50.7%	31.7%	24.1%	2.6%	0.7%
Race/Ethnicity					
White	64.7%	44.2%	31.8%	3.4%	0.9%
Latino/Hispanic	61.4%	44.6%	21.4%	4.2%	0.6%
African-American	36.9%	22.3%	10.7%	1.5%	0.2%
Asian/Pacific Islander/American Indian/ Aleut Eskimo	48.6%	29.8%	17.8%	2.2%	1.2%



section 4

PET OWNER PROFILES





SECTION 4 OVERVIEW: PET OWNER PROFILES

Almost two-thirds (62.8%) of all the households surveyed for the 2017 U.S. Pet Ownership & Demographics Sourcebook were classified as families. Families are more likely to own pets (71%) than non-families, particularly those with both spouses present. In fact, more than half of all pet owners in 2016 were married or living as married, while for the general population, just under half of the adult population are living as families.

Single female-headed families are more likely to own cats or horses. Single male-headed families are more likely to own birds.

Dog and horse owners tend to be financially better-off, while cat and bird owners are more like the general population. In particular, a larger share of horse owners is in the highest income category compared to the population in general. Education level does matter when it comes to owning pets, again, except for pet horse ownership.

Home ownership and housing type are important determinants of pet ownership. Pet owners were more likely to live in houses rather than apartments or other multifamily housing; 70% of pet owners—and, in particular, 75% of horse owners—lived in houses in 2016, compared to 63% of the general population (S4_TAB 7).

Pet-ownership rates are higher in less urbanized areas and lowest in the most urbanized areas—metro areas with populations of 2 million or more. Horse owners in particular were more likely to live in the least urbanized areas with populations less than 100,000.

The “All Households” category in this section includes both pet-owning and non-pet-owning households who took part in the study. See Appendix A for detailed information about how closely “all households” represent all households in the United States in 2016 according to the Bureau of the Census. The “All Pets” category in this section refers to all households who owned any type of pet.

Respondents were classified as family households or non-family households according to their characteristics. These two groups were further disaggregated into seven household types. The seven household types are:

Family

1. Husband and wife with or without children present.
2. Male, no wife, with children or other relative present.
3. Female, no husband, with children or other relative present.

Non-family

4. Male living alone.
5. Female living alone.
6. Male living with non-relative.
7. Female living with non-relative.

71% Pet-owning households are "families"

43% Pet-owning households have 3 or more members

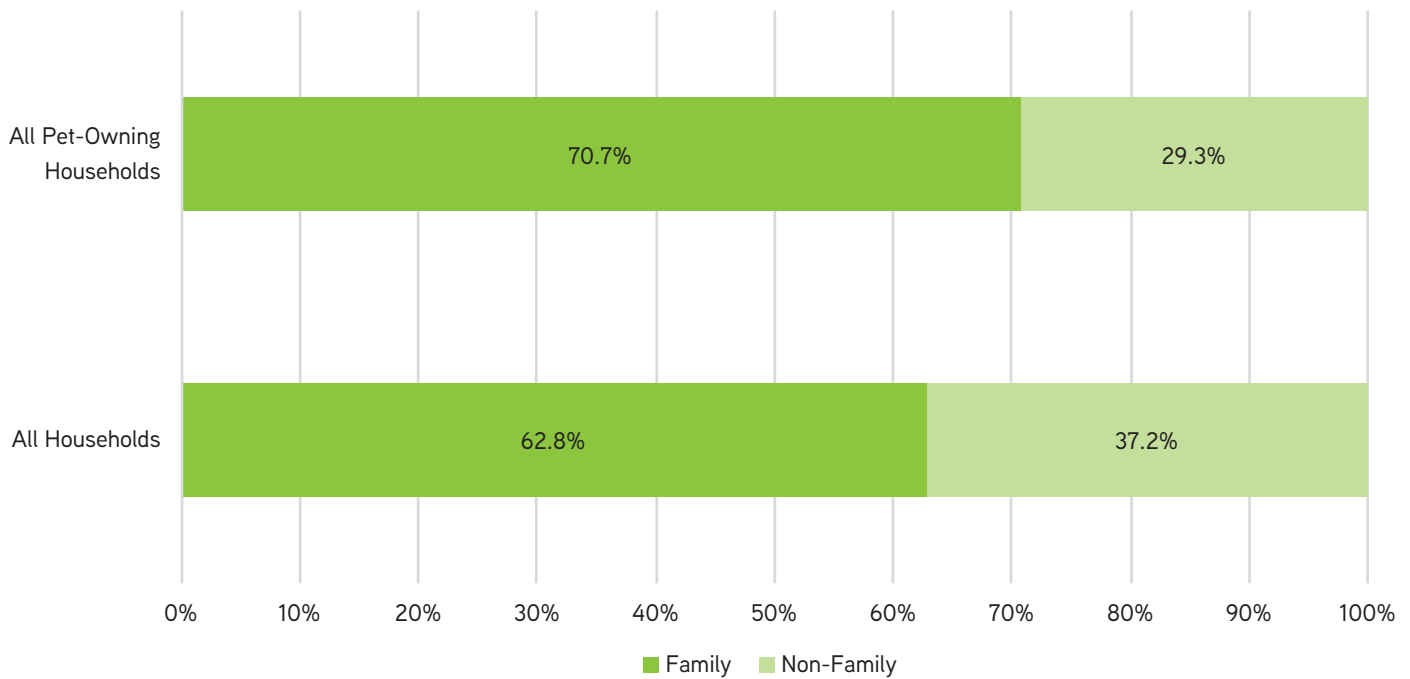
62% Pet-owning households own their home

54% Horse owners live in areas near the least urbanized areas (with populations less than 100,000)

Household Type

There were differences in the mix of household types among pet-owning households compared to all households (S4_FIG 1). Seven out of 10 (71%) pet-owning households were families, compared to less than two-thirds (63%) of all households in the general population. The implication is that families are more likely than non-families to own pets.

S4_FIG 1. DISTRIBUTION OF HOUSEHOLDS WITH PETS AND IN GENERAL BY HOUSEHOLD CLASSIFICATION, 2016



Pet ownership is highest in both-spouses-present families. There is a significantly larger share of dog-owning households with both spouses present (60.3%) than in the general population (50.6%).

Cat and horse ownership are associated with female-headed families. There is a larger share of pet-owning female-headed families (8.1%) than there are female-headed families in general (7.1%). In particular, there is a larger share of cat-owning female-headed families (8.8%) and a much larger share of horse-owning female-headed families (11.1%) than in general (7.1%).

Bird ownership is different. There is a larger share of male-headed families with birds (8%) than in general (5.1%). And there is a larger share of bird-owning female-headed non-families (3.1%) than in general (1.9%).

S4_TAB 1. DISTRIBUTION OF PET OWNERS AND ALL HOUSEHOLDS BY HOUSEHOLD TYPE, 2016

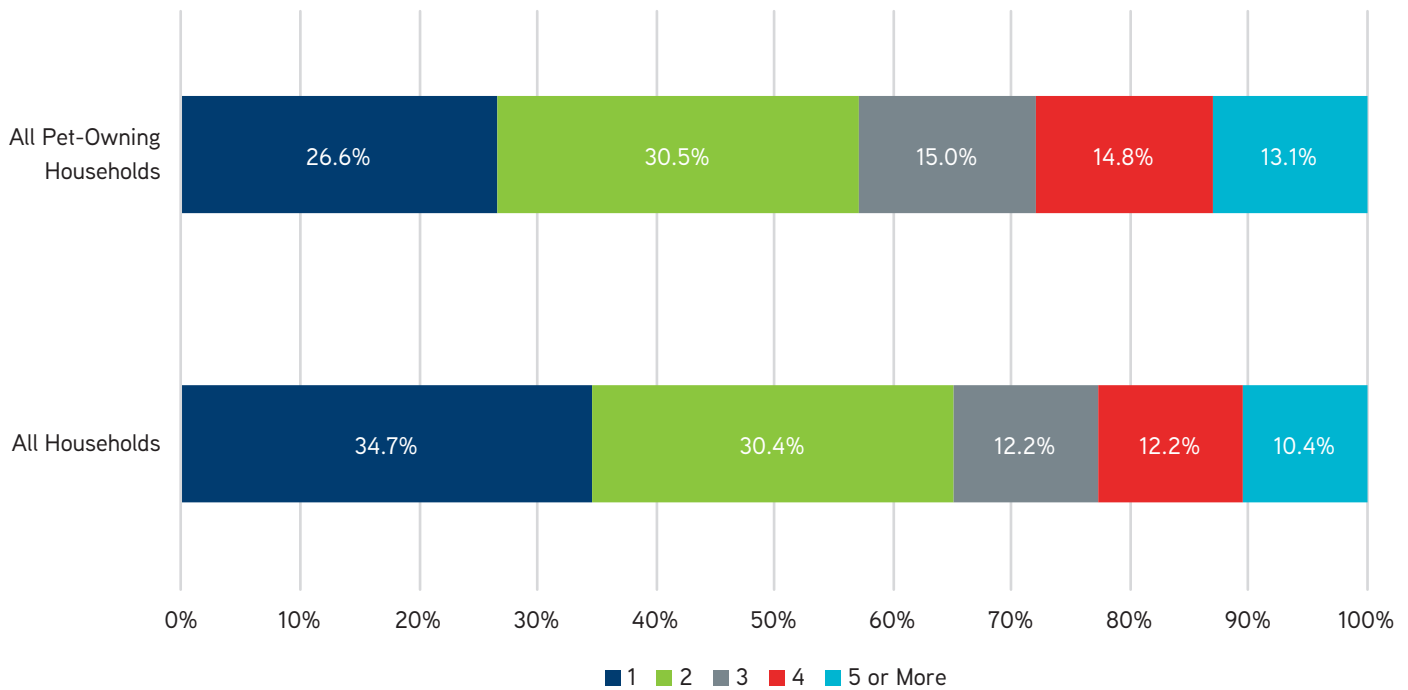
	All Households	All Pets	Dogs	Cats	Birds	Horses
Family	62.8%	70.7%	74.2%	69.9%	70.6%	72.5%
Husband and Wife with or without Children	50.6%	57.1%	60.3%	56.1%	54.1%	57.3%
Male, No Wife, with Child and/or Other Relative Present	5.1%	5.5%	5.6%	5.0%	8.0%	4.1%
Female, No Husband, with Child and/or Other Relative Present	7.1%	8.1%	8.2%	8.8%	8.4%	11.1%
Non-Family	37.2%	29.3%	25.8%	30.1%	29.4%	27.5%
Male Living Alone	16.9%	12.0%	10.6%	11.3%	10.3%	12.6%
Female Living Alone	15.9%	13.1%	10.9%	14.7%	14.8%	10.9%
Male Living with Non-Relative	2.5%	2.2%	2.3%	2.2%	1.3%	2.9%
Female Living with Non-Relative	1.9%	1.9%	2.0%	1.9%	3.1%	1.1%

Household Size

Pet-owning households tend to be larger. Single people living alone (34.7%) are less likely to own any kind of pet (26.6%) (S4_FIG 2).

And it's not just both-spouses-present that matters. The share of two-person households with pets (30.5%) is nearly identical to the share of two-person households in general (30.4%) (S4_FIG 2, S4_TAB 2). It's the presence of children or other family members that matters: 43% of pet-owning households had three or more people, compared to 35% of all households in general.

S4_FIG 2. DISTRIBUTION OF PET-OWNING AND ALL HOUSEHOLDS BY SIZE, 2016



S4_TAB 2. DISTRIBUTION OF ALL HOUSEHOLDS AND PET-OWNING HOUSEHOLDS BY SIZE AND PET TYPE, 2016

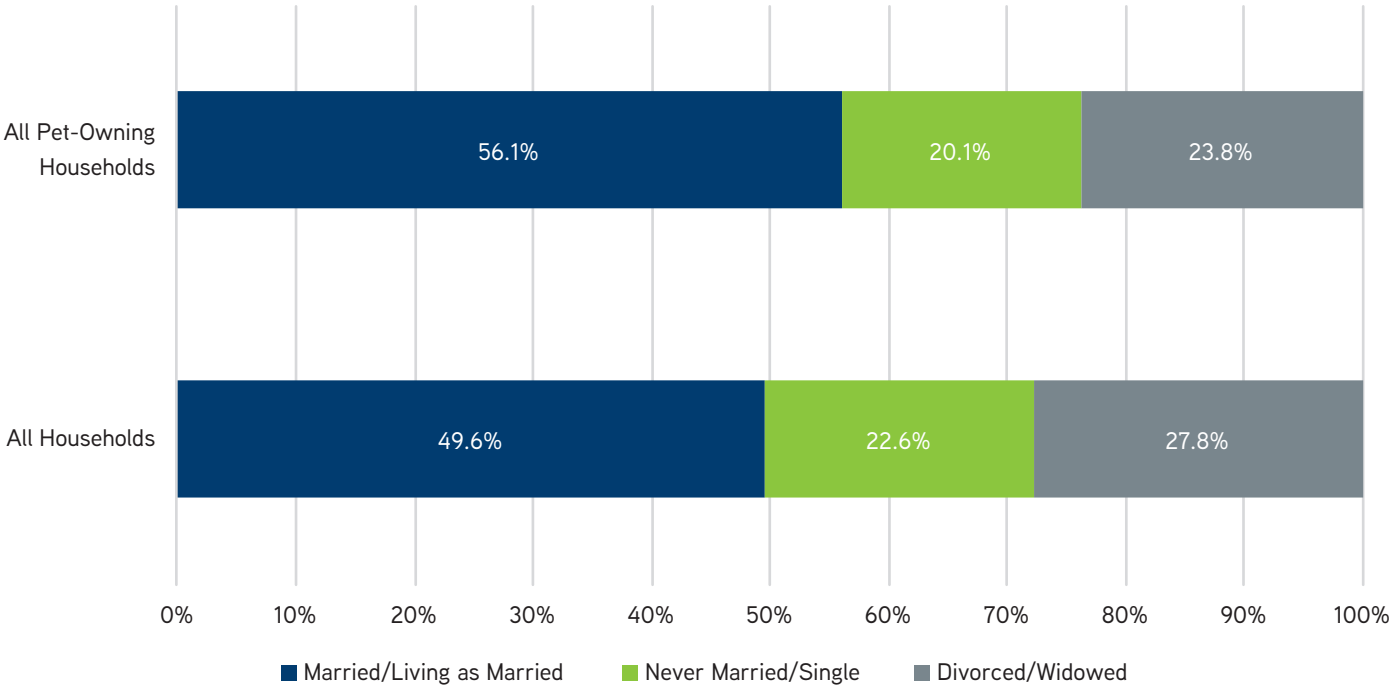
	All households	All pets	Dogs	Cats	Birds	Horses
Household size	%	%	%	%	%	%
One member	34.7%	26.6%	22.9%	27.3%	27.2%	23.9%
Two members	30.4%	30.5%	30.3%	31.1%	25.5%	31.6%
Three members	12.2%	15.0%	15.9%	15.0%	13.0%	14.4%
Four members	12.2%	14.8%	16.4%	13.8%	16.2%	12.6%
Five or More members	10.4%	13.1%	14.5%	12.9%	18.0%	17.5%

Specifically, 47% of households owning dogs, 42% of those owning cats and 47% of those owning birds had three or more persons in their household, compared to 35% of all households in general (S4_TAB 2).

Marital Status

As noted previously, pet ownership is positively related to both spouses present. In fact, a higher percent of pet-owning households were married (56.1%) compared to all households in general (49.6%) (S4_FIG 3). Among pet owners, 59% of dog-owning households, 55% of cat owners and 53% of bird owners were married (S4_TAB 3). Marital status is 57% among horse-owning households compared to 50% households in general.

S4_FIG 3. DISTRIBUTION OF HOUSEHOLDS WITH PETS AND IN GENERAL BY MARITAL STATUS, 2016



S4_TAB 3. DISTRIBUTION OF HOUSEHOLDS WITH PETS AND IN GENERAL BY MARITAL STATUS AND PET TYPE, 2016

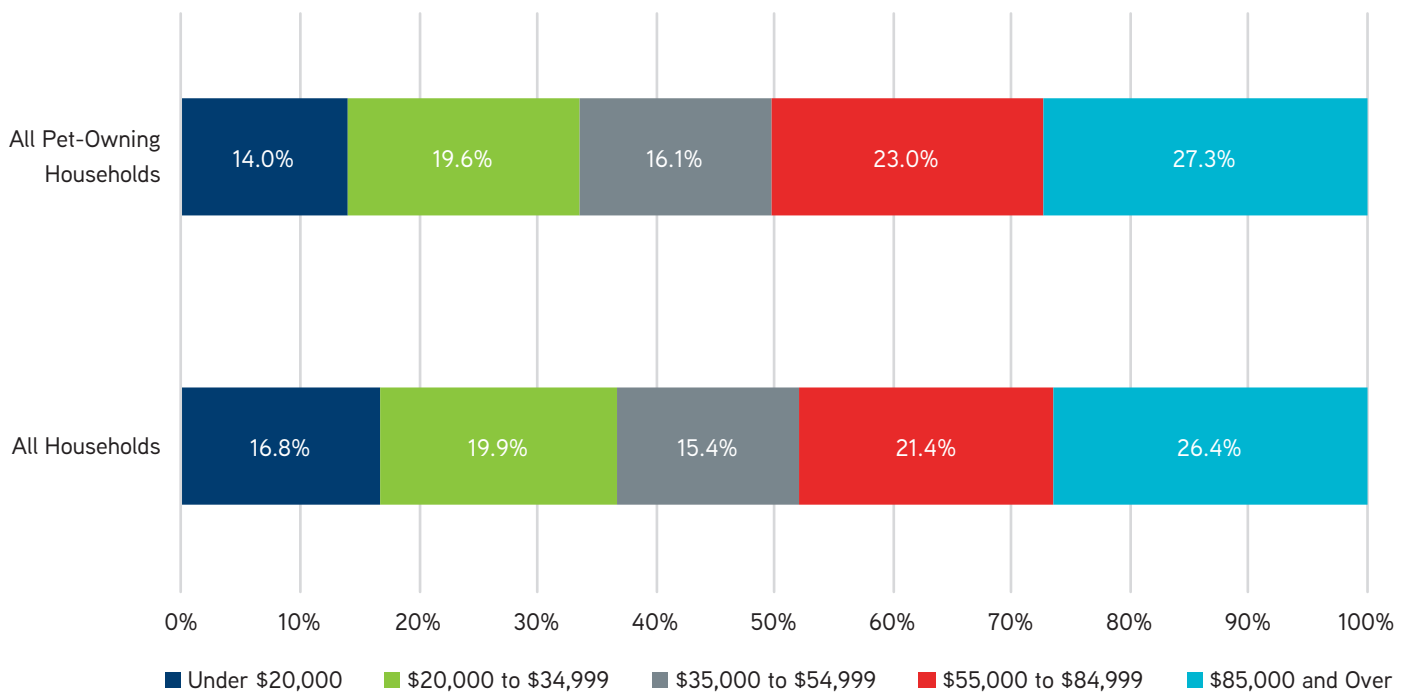
	All Households	All Pets	Dogs	Cats	Birds	Horses
Marital Status	%	%	%	%	%	%
Married/Living as Married	49.6%	56.1%	59.2%	55.0%	53.4%	56.7%
Never Married/Single	22.6%	20.1%	18.8%	19.7%	23.1%	19.7%
Divorced/Widowed	27.8%	23.8%	22.0%	25.3%	23.4%	23.6%

Household Income

Household income was only slightly higher among pet-owning households compared to all households (S4_FIG 4). For example, 50% of pet-owning households had incomes of \$55,000 or more.

Across all households, just under half (48%) earned more than \$55,000. A higher share of horse owners (56%) and dog owners (52%) had incomes above \$55,000, while a smaller share of cat (47%) and bird owners (41%) had incomes above \$55,000 (S4_TAB 4).

S4_FIG 4. DISTRIBUTION OF HOUSEHOLDS WITH PETS AND IN GENERAL BY HOUSEHOLD INCOME CATEGORY, 2016



S4_TAB 4. DISTRIBUTION OF HOUSEHOLDS IN GENERAL AND WITH PETS BY TYPE OF PET, BY HOUSEHOLD INCOME, 2016

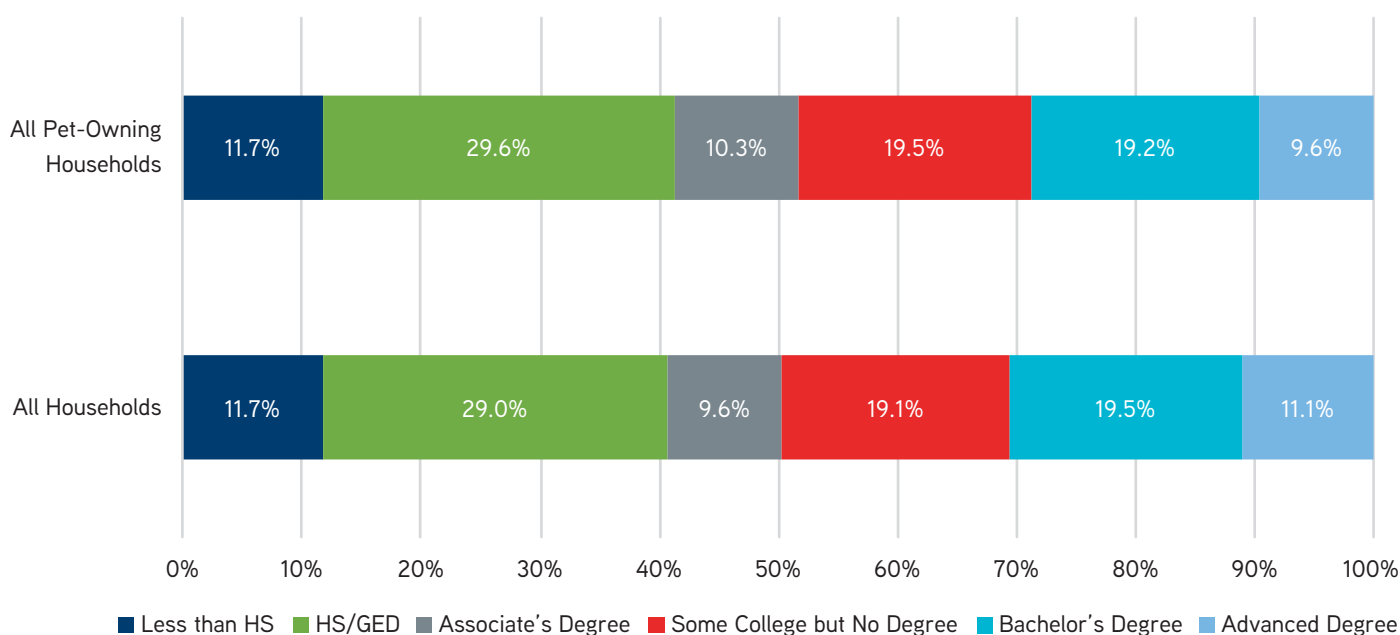
	All Households	All Pets	Dogs	Cats	Birds	Horses
Household Income	%	%	%	%	%	%
Under \$20,000	16.8%	14.0%	13.1%	14.6%	16.2%	12.2%
\$20,000 to \$34,999	19.9%	19.6%	18.7%	21.2%	25.2%	14.5%
\$35,000 to \$54,999	15.4%	16.1%	15.8%	17.0%	17.2%	17.6%
\$55,000 to \$84,999	21.4%	23.0%	23.4%	23.2%	18.4%	20.2%
\$85,000 and Over	26.4%	27.3%	29.0%	23.9%	23.0%	35.5%

Education Level

The distribution of pet-owning households by education level is indistinguishable from that among all households (S4_FIG 5). For example, 41% of pet-owning household respondents did not attend college, just like 41% of all household respondents.

A slightly higher percentage of dog owners (41.6%), cat owners (41.8%) and bird owners (49%) did not attend college, compared to all households. More horse owners did attend college (S4_TAB 5). Also, a higher percent of horse owners (13.5%) have graduate degrees (Master's, Doctorates or professional degrees) compared to all households, while all other pet owners are less likely to have graduate degrees.

S4_FIG 5. DISTRIBUTION OF HOUSEHOLDS IN GENERAL AND WITH PETS BY EDUCATION LEVEL, 2016



S4_TAB 5. DISTRIBUTION OF HOUSEHOLDS IN GENERAL AND WITH PETS BY TYPE OF PET, BY EDUCATION LEVEL, 2016

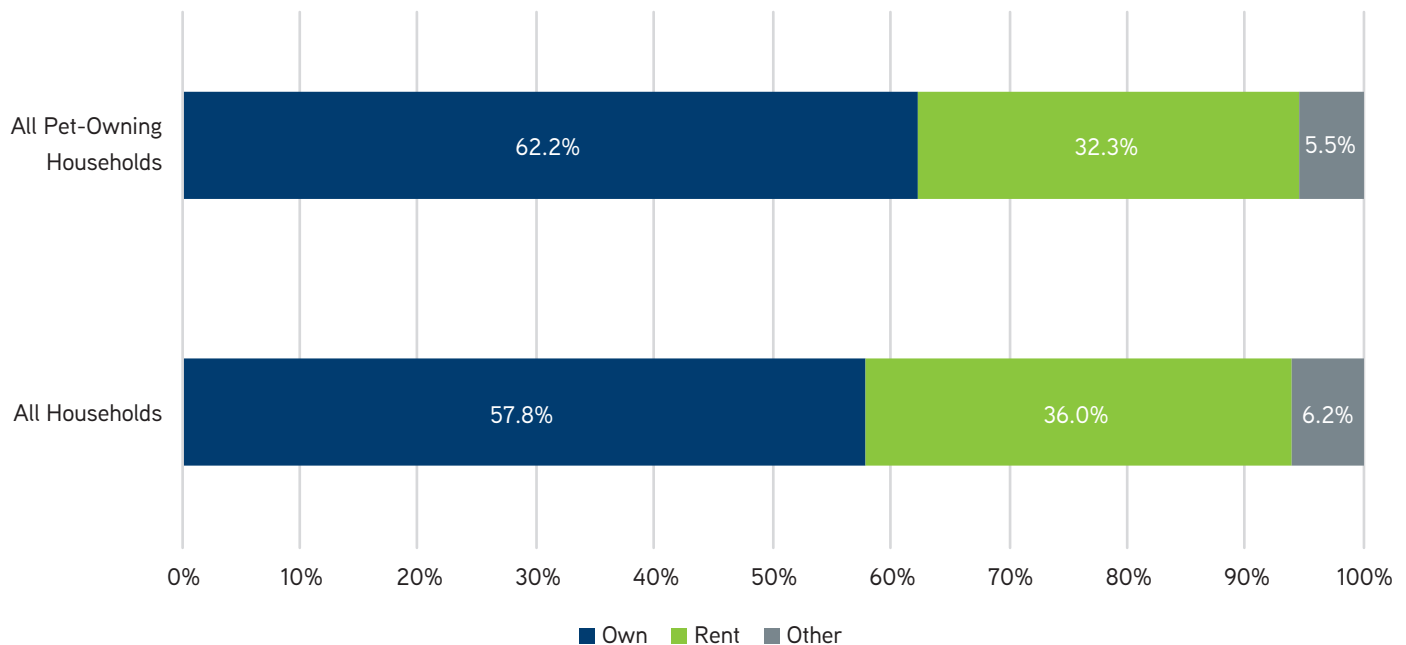
	All Households	All Pets	Dogs	Cats	Birds	Horses
Households	%	%	%	%	%	%
Less than High School	11.7%	11.7%	11.8%	12.0%	16.2%	10.7%
High School or GED	29.0%	29.6%	29.8%	29.8%	33.0%	23.7%
Some College But No Degree	19.1%	19.5%	19.1%	20.0%	19.6%	23.7%
Associate's Degree	9.6%	10.3%	10.4%	10.9%	9.1%	11.0%
Bachelor's Degree	19.5%	19.2%	19.6%	18.6%	14.9%	18.2%
Master's Degree (MA, MS, MBA, etc.)	8.2%	7.2%	6.9%	6.7%	5.3%	7.6%
Professional Degree (JD, MD, DVM, etc.)	1.6%	1.4%	1.4%	1.2%	1.3%	2.7%
Ph.D.	1.3%	1.0%	0.9%	0.8%	0.5%	2.5%

Home Ownership

Pet-owning households are more likely than households in general to own their homes (S4_FIG 6), with 62.2% of 2016 pet-owning households owning their home versus 57.8% of all households.

Specifically, 65.4% of dog owners, 62.6% of cat owners, 63% of bird owners and 67% of horse owners owned their home, compared to 57.8% of households in general (S4_TAB 6).

S4_FIG 6. DISTRIBUTION OF HOUSEHOLDS IN GENERAL AND WITH PETS BY HOME OWNERSHIP STATUS, 2016



S4_TAB 6. DISTRIBUTION OF HOUSEHOLDS IN GENERAL AND WITH PETS BY TYPE OF PET, BY HOME OWNERSHIP STATUS, 2016

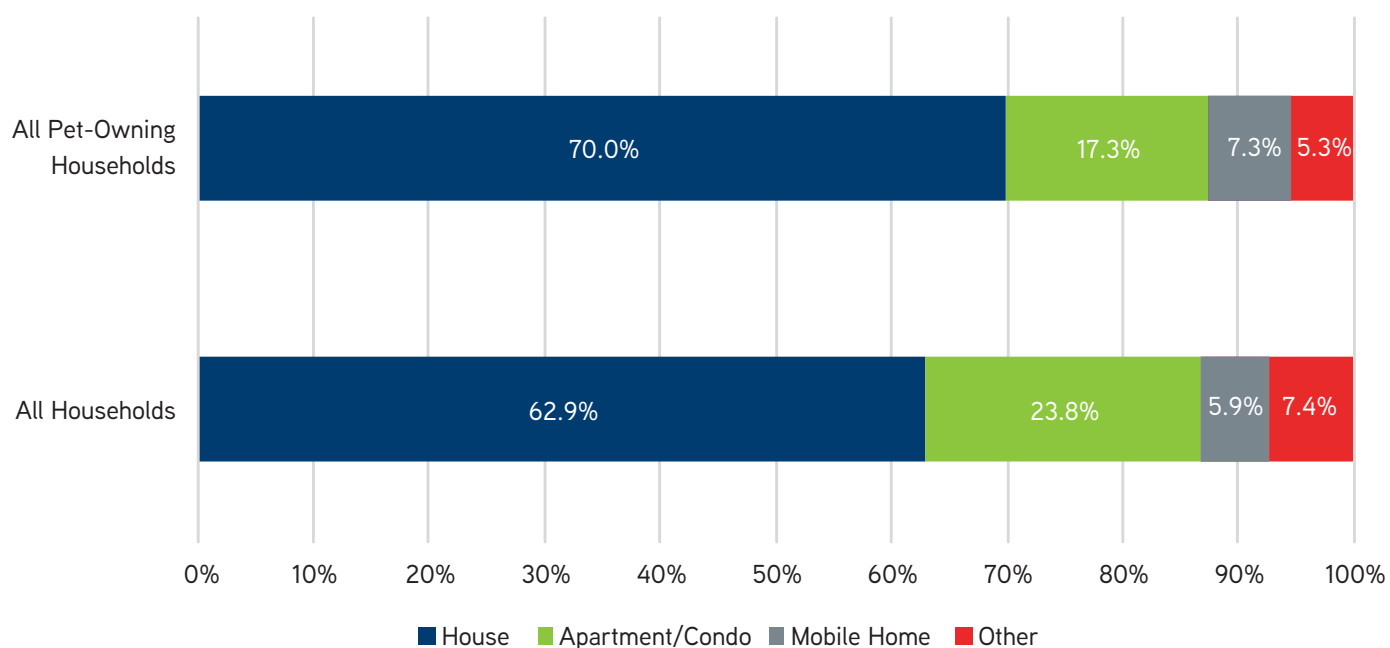
	All Households	All Pets	Dogs	Cats	Birds	Horses
Home Ownership Status	%	%	%	%	%	%
Own	57.8%	62.2%	65.4%	62.6%	63.0%	66.6%
Rent	36.0%	32.3%	29.0%	32.2%	31.0%	21.6%
Other	6.2%	5.5%	5.6%	5.2%	6.0%	11.8%

Residence Type

Pet owners were also more likely to live in houses compared to households in general (S4_FIG 7). Overall, 70% of pet owners lived in houses versus 62.9% of all households.

Regardless of the type of pet owned, households that have pets are more likely to own their home, with 74.7% of those households with dogs, 68.3% of those with cats, 67.7% of those with birds and 74.6% of those with horses living in a house, compared to 62.9% of households in general (S4_TAB 7).

S4_FIG 7. DISTRIBUTION OF HOUSEHOLDS WITH PETS AND IN GENERAL BY RESIDENCE TYPE, 2016



S4_TAB 7. DISTRIBUTION OF HOUSEHOLDS IN GENERAL AND WITH PETS BY TYPE OF PET, BY TYPE OF RESIDENCE, 2016

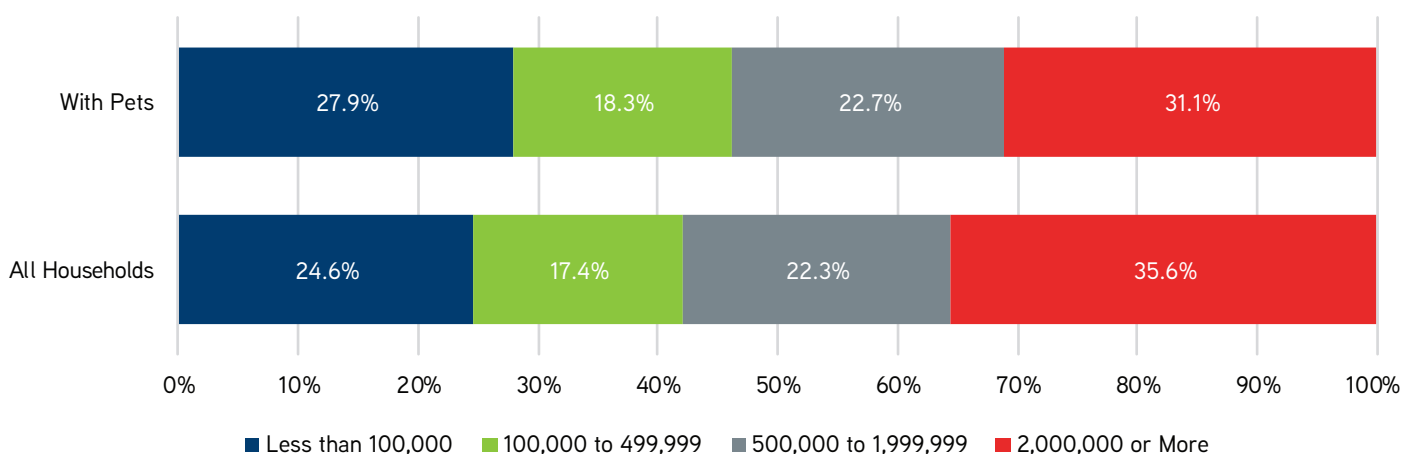
	All Households	All Pets	Dogs	Cats	Birds	Horses
Residence Type	%	%	%	%	%	%
Apartment/Condo	23.8%	17.3%	12.6%	18.1%	19.0%	8.2%
House	62.9%	70.0%	74.7%	68.3%	67.7%	74.6%
Mobile Home	5.9%	7.3%	7.8%	8.2%	10.1%	16.9%
Other	7.4%	5.3%	4.9%	5.4%	3.1%	0.4%

Community Size

The distribution of pet-owning households by community size was similar to the distribution in general (S4_FIG 8). However, the rates of pet ownership are higher in areas with smaller urban populations (less than 100,000), where 27.9% of pet owners live, and lower in the largest urban areas with populations of 2 million or more; 35.6% of households in general live in those large urban areas, but only 31.1% of pet-owning households do.

More than half of horse-owning households (54%) live in the least urbanized areas, compared to all households in general (24.6%), and that means there are lower percentages of horse-owning households in all larger communities (S4_TAB 8). There are also more cat-owning households in less urbanized areas (31%), compared to all households (24.6%).

S4_FIG 8. DISTRIBUTION OF HOUSEHOLDS WITH PETS AND IN GENERAL BY COMMUNITY SIZE, 2016



S4_TAB 8. DISTRIBUTION OF HOUSEHOLDS WITH PETS AND IN GENERAL BY COMMUNITY SIZE, 2016

	All Households	All Pets	Dogs	Cats	Birds	Horses
Community Size	%	%	%	%	%	%
Less than 100,000	24.6%	27.9%	29.8%	31.0%	29.9%	54.4%
100,000 to 499,999	17.4%	18.3%	18.9%	19.1%	18.6%	13.0%
500,000 to 1,999,999	22.3%	22.7%	21.7%	22.6%	22.1%	11.3%
2,000,000 or More	35.6%	31.1%	29.5%	27.3%	29.4%	21.4%

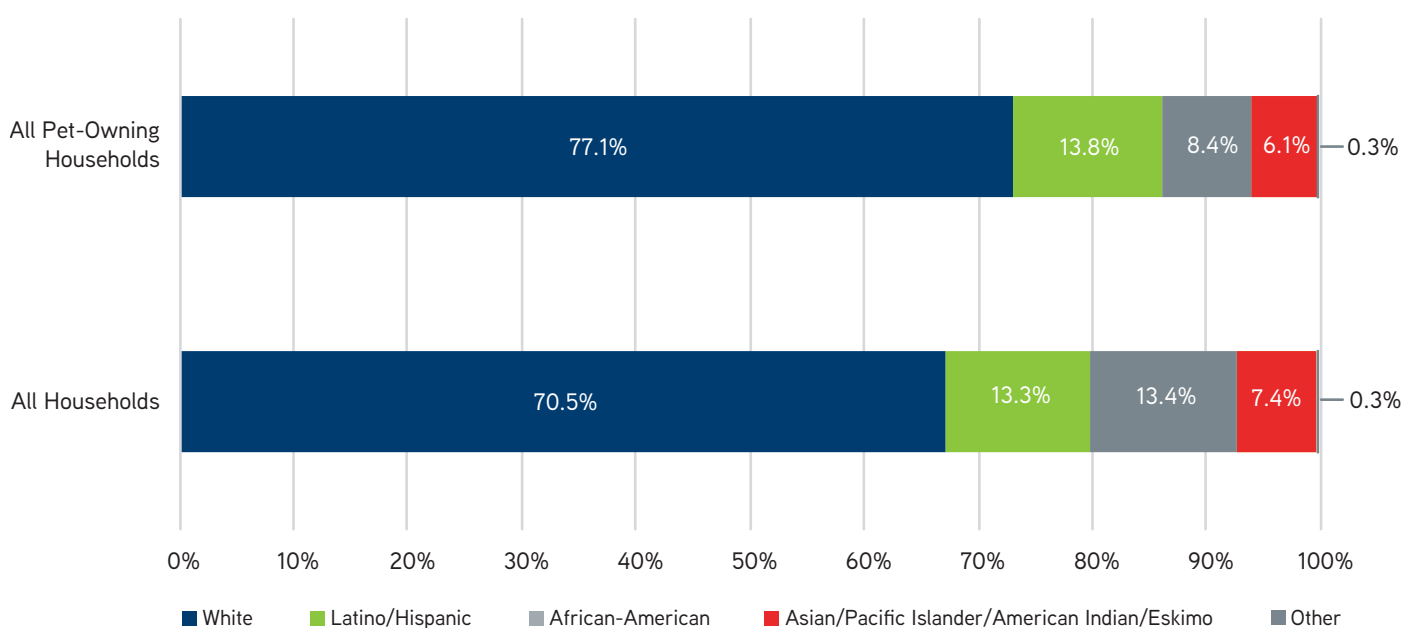
Race and Ethnicity

The distribution of pet-owning households by race and ethnicity differs from the distribution of all households in 2016 (S4_FIG 9). A higher percentage of pet owners were White (77.1%) compared to all households (70.5%), while a lower percentage of pet owners were African-American (8.4%) compared to households in general (13.4%). There were fewer pet owners who were Asian/Pacific Islander/American Indian/Aleut Eskimo (6.1%) compared to all households (7.4%). The same rate of pet-owning households is of Latino/Hispanic ethnicity (13.8%) as among all households (13.3%).

A higher percentage of dog owners, cat owners, bird owners and horse owners were White, compared to all households in general (S4_TAB 9). A higher percentage of dog owners and bird owners were Latino/Hispanic, compared to all households.

A lower percentage of dog owners, cat owners, bird owners and horse owners were African-American compared to all households. A lower percentage of Asian/Pacific Islander/American Indian/Aleut Eskimo were dog, cat and bird owners compared to all households, but the share of horse ownership was higher.

S4_FIG 9. DISTRIBUTION OF HOUSEHOLDS WITH OR WITHOUT PETS BY RACE/ETHNICITY, 2016



S4_TAB 9. DISTRIBUTION OF HOUSEHOLDS IN GENERAL AND WITH PETS BY TYPE OF PET, BY RACE/ETHNICITY, 2016

	All Households	All Pets	Dogs	Cats	Birds	Horses
Race/Ethnicity	%	%	%	%	%	%
White	70.5%	77.1%	77.8%	84.5%	77.9%	83.0%
Latino/Hispanic	13.3%	13.8%	14.8%	10.7%	18.2%	9.7%
African-American	13.4%	8.4%	7.5%	5.4%	6.7%	4.1%
Asian/Pacific Islander/ American Indian/Eskimo	7.4%	6.1%	5.5%	5.0%	5.4%	10.9%
Other	0.3%	0.3%	0.3%	0.2%	0.2%	0.0%



PET OWNER DEMOGRAPHICS: SUMMARY TABLES

S4_TAB 10. DISTRIBUTION OF HOUSEHOLDS IN GENERAL AND PET OWNERS BY TYPE OF PET, BY HOUSEHOLD TYPE, MARITAL STATUS AND HOUSEHOLD SIZE, 2016

(Example: 74.2% of dog-owning households were families.)

	All Households	All Pets	Dogs	Cats	Birds	Horses
Household Type	%	%	%	%	%	%
Family	62.8%	70.7%	74.2%	69.9%	70.6%	72.5%
Husband and Wife with or without Children	50.6%	57.1%	60.3%	56.1%	54.1%	57.3%
Male, No Wife, with Child and/or Other Relative Present	5.1%	5.5%	5.6%	5.0%	8.0%	4.1%
Female, No Husband, with Child and/or Other Relative Present	7.1%	8.1%	8.2%	8.8%	8.4%	11.1%
Non-Family	37.2%	29.3%	25.8%	30.1%	29.4%	27.5%
Male Living Alone	16.9%	12.0%	10.6%	11.3%	10.3%	12.6%
Female Living Alone	15.9%	13.1%	10.9%	14.7%	14.8%	10.9%
Male Living with Nonrelative	2.5%	2.2%	2.3%	2.2%	1.3%	2.9%
Female Living with Nonrelative	1.9%	1.9%	2.0%	1.9%	3.1%	1.1%
Marital Status	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Married/Living as Married	49.6%	56.1%	59.2%	55.0%	53.4%	56.7%
Never Married/Single	22.6%	20.1%	18.8%	19.7%	23.1%	19.7%
Divorced/Widowed	27.8%	23.8%	22.0%	25.3%	23.4%	23.6%
Household Size	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
One Member	34.7%	26.6%	22.9%	27.3%	27.2%	23.9%
Two Members	30.4%	30.5%	30.3%	31.1%	25.5%	31.6%
Three Members	12.2%	15.0%	15.9%	15.0%	13.0%	14.4%
Four Members	12.2%	14.8%	16.4%	13.8%	16.2%	12.6%
Five or More Members	10.4%	13.1%	14.5%	12.9%	18.0%	17.5%

S4_TAB 11. DISTRIBUTION OF HOUSEHOLDS IN GENERAL AND WHO OWNED PETS BY TYPE OF PET, BY RACE/ETHNICITY, INCOME, HOME OWNERSHIP STATUS, RESIDENCE TYPE AND COMMUNITY SIZE, 2016

(Example: 14.8% of dog-owning households were Latino/Hispanic.)

	All Households	All Pets	Dogs	Cats	Birds	Horses
	%	%	%	%	%	%
Race/Ethnicity	Race and Ethnicity Shares Sum to More Than 100%					
White	70.5%	77.1%	77.8%	84.5%	77.9%	83.0%
Latino/Hispanic	13.3%	13.8%	14.8%	10.7%	18.2%	9.7%
African-American	13.4%	8.4%	7.5%	5.4%	6.7%	4.1%
Asian/Pacific Islander/ American Indian/Eskimo	7.4%	6.1%	5.5%	5.0%	5.4%	10.9%
Other	0.3%	0.3%	0.3%	0.2%	0.2%	0.0%
Household Income		100	100	100	100	100
Under \$20,000	16.8%	14.0%	13.1%	14.6%	16.2%	12.2%
\$20,000 to \$34,999	19.9%	19.6%	18.7%	21.2%	25.2%	14.5%
\$35,000 to \$54,999	15.4%	16.1%	15.8%	17.0%	17.2%	17.6%
\$55,000 to \$84,999	21.4%	23.0%	23.4%	23.2%	18.4%	20.2%
\$85,000 and Over	26.4%	27.3%	29.0%	23.9%	23.0%	35.5%
Home Ownership Status						
Own	57.8%	62.2%	65.4%	62.6%	63.0%	66.6%
Rent	36.0%	32.3%	29.0%	32.2%	31.0%	21.6%
Other	6.2%	5.5%	5.6%	5.2%	6.0%	11.8%
Type Of Residence						
House	62.9%	70.0%	74.7%	68.3%	67.7%	74.6%
Mobile Home	5.9%	7.3%	7.8%	8.2%	10.1%	16.9%
Apartment/Condo	23.8%	17.3%	12.6%	18.1%	19.0%	8.2%
Other	7.4%	5.3%	4.9%	5.4%	3.1%	0.4%
Community Size						
Less than 100,000	24.6%	27.9%	29.8%	31.0%	29.9%	54.4%
100,000 to 499,999	17.4%	18.3%	18.9%	19.1%	18.6%	13.0%
500,000 to 1,999,999	22.3%	22.7%	21.7%	22.6%	22.1%	11.3%
2,000,000 or More	35.6%	31.1%	29.5%	27.3%	29.4%	21.4%

APPENDIX A: SURVEY METHOD

The Questionnaire

The American Veterinary Medical Association retained The National Center for Food and Agricultural Policy (NCFAP) to prepare, oversee, tabulate and draft this *Sourcebook* for the 2017 Pet Ownership and Demographics Survey (PDS). NCFAP engaged the Iowa State University Center for Survey Statistics and Methodology (ISU-CSSM) to conduct the statistical work, and Survey Sampling International (SSI) to implement the survey itself.

In 2015 and 2016 NCFAP pretested new survey questions. Most of the new questions were designed to measure the demand for pet health care. Both the new and the old PDS questions (questions asked on previous Pet Ownership and Demographics surveys are called "legacy questions" in this *Sourcebook*) were validated by comparison to the respondents' actual veterinary purchase records. Drafts of updated questionnaires were also discussed and edited by AVMA veterinarians and by pet-industry volunteers, including members of the AVMA's Economics Advisory Research Council (EARC) Pet Demographics Research Group (PDRG). Edited versions of pretested questions that obtained valid responses appear in the 2017 Pet Ownership and Demographics Survey.

NCFAP collaborated with the ISU-CSSM to design and conduct the three pretest surveys. The ISU-CSSM also designed the sampling procedure for the 2017 Pet Ownership and Demographics Survey, programmed the survey questionnaire and worked with the panel provider to implement the sampling strategy. ISU-CSSM cleaned, validated, weighted and tabulated most of the survey data. NCFAP tabulated the new question data and prepared the analyses.

The Survey

The 2017 Pet Ownership and Demographics Survey consisted of five modules. The primary focus of the survey was to collect data about the numbers of pets owned as of December 31, 2016, by household type in order to estimate pet populations. Because the data were, as usual, collected from a sample of households, the results are not a census of pet populations. Estimates based on a sample are always subject to sampling error.

The first module—completed by all respondents—collected current household demographic information and determined which pets, if any, were owned by the household at any time during 2016. Eleven types of pet species were specifically listed: dogs, cats, horses, pet birds, fish, rabbits, ferrets, reptiles (turtles, snakes, lizards, ...), pet livestock (pigs, goats, ...) pet poultry (chicken, pigeons, ducks, ...) and other mammals (gerbils, hamsters, monkeys, ...). Additional space was given to respondents to list other types of pets they might have, as well.

The other four modules concerned pets by species: dogs, cats, horses and all other types of pets. The dog module includes questions and possible answer options unique to dogs and their owners. The cat module includes questions and answer options unique to cats and their owners, and the horse module includes questions and answer options unique to horses and their owners. The module about all other types of pets (such as birds, fish, other mammals, reptiles, etc.) contains generic questions. A pet module was completed by each household for each type of pet they owned at any time in 2016.

The Sample

The ISU-CSSM developed a stratified sampling design aimed at collecting 50,000 completed surveys that would represent the U.S. household population in 2016, despite the relatively higher non-response rates from some strata that were observed in ISU-CSSM's analysis of the 2012 PDS data.

The sampling frame was chosen so that the set of respondents would be representative of all U.S. households with respect to race/ethnicity, gender, household income, age and geographic region. These five characteristics were shown to be most important in the 2012 PDS data with respect to pet ownership. A_TAB 1 lists these stratification characteristics and their census frequencies in 2016, according to the U.S. Census Bureau's 2016 Current Population Survey through the following URL: <https://www.census.gov/cps/data/cpstablecreator.html>.

The five stratification variables defined a total of 240 strata, which were aggregated to 160 strata for survey implementation.

A_TAB 1 HOUSEHOLD CHARACTERISTICS FOR SAMPLE STRATIFICATION

	2016 Census Frequency
Race/Ethnicity	
Hispanic and Other Race	0.132
Non-Hispanic and White, Others Alone, Two or More Races	0.690
Non-Hispanic African-American	0.126
Non-Hispanic Asian, Native Hawaiian, or Pacific Islander	0.051
Gender	
Male	0.503
Female	0.497
Household Income	
Less than \$30,000	0.298
\$30,000 or More	0.702
Age	
18 to 34	0.300
35 to 65	0.505
65 and Over	0.194
Geographic region	
Region One (New England States)	0.047
Region Two (Atlantic and North Central States)	0.348
Region Three (Southern States)	0.380
Region Four (Mountain and Pacific excl. CA & NV)	0.105
Region Five (CA and NV)	0.120

The Regions

The 50 states were aggregated into the five geographic regions according to similarities in pet ownership, urbanization, demographics and geographic proximity. A statistical clustering algorithm called the “k-means clustering” approach was applied to the 2012 PDS data. The k-means algorithm assigned each 2012 PDS observation into the cluster with the nearest means of eight PDS variables. These variables were (1) the percent of households in the state owning a pet anytime in 2011, (2) the percent of households owning a dog anytime in 2011, (3) the percent of households owning a cat anytime in 2011, (4) the percent of households owning a horse anytime in 2011, (5) the percent of households owning a fish anytime in 2011, (6) the geographic centroid (longitude, latitude) of the state, (7) the percent nonwhite in the state, and (8) the urban population in the state.

The five final geographic regions used to geographically stratify the sample for the 2017 PDS were determined by the k-means clustering results, with minor adjustments, so that they map almost directly to the major geographic divisions as defined by the U.S. Census Bureau; see https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf. The divisions and states comprising each region used to stratify the 2017 PDS are listed in A_TAB 2.

A_TAB 2. GEOGRAPHIC STRATA FOR THE 2017 PDS SAMPLE FRAME

Region	Census Divisions	States
One	New England	CT, ME, MA, NH, RI, VT
Two	Middle Atlantic, East North Central and West North Central	IL, IN, IA, KS, MI, MN, MO, NE, NJ, NY, ND, OH, PA, SD, WI
Three	South Atlantic, East South Central and West South Central	AL, AR, DE, DC, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV
Four	Mountain and Pacific (excl. CA and NV)	AK, AZ, CO, HI, ID, MT, NM, OR, UT, WA, WY
Five	CA and NV	CA, NV

Survey Implementation

The 2017 PDS panel was provided by SSI, which also conducted the survey over the internet. All prior PDS panels were assembled by TNS Global. All PDS surveys prior to the 2012 PDS were conducted by surface mail. This is the first PDS implemented by SSI, and the second PDS conducted over the internet.

SSI collected survey responses in a series of waves in consultation with ISU-CSSM. First, an invitation to complete the survey was emailed to household members in SSI's panel on January 26, 2017. When the target number of responses within a stratum (defined by ISU-CSSM as described above) was met, SSI closed the survey for panelists in that stratum. SSI paused after each wave to give ISU-CSSM the sampling statistics so ISU-CSSM could fine-tune the strata and targets as needed to obtain a sample as representative as possible of all U.S. households.

Ultimately 200,251 panel members were invited by SSI to complete the survey, and 50,500 did so within their open acceptance periods. The survey closed completely on March 23, 2017. Of those 50,500 surveys, 47,543 complete surveys passed ISU-CSSM's algorithmic external validity tests, and 41,622 passed all validity tests, including internal validity and internal consistency tests.

Post-Sample Weights

All tabulations and analyses reported in the *2017 Pet Ownership and Demographic Survey Sourcebook* are based on post-sample weighted data. There are two main reasons for post-sample weighting the 2017 PDS data. First, the household characteristics of the respondents used to assign SSI panelists to strata came from SSI's prior information about their panelists. The respondents' actual household characteristics by the time they replied to the PDS survey about their pet ownership may have changed. We do not assume that their previously reported household characteristics remained the same, therefore we do not assume that respondents are in the same strata either. The second reason to post-sample weight is to offset any remaining non-response issues, especially with respect to household characteristics that could not be monitored in the sampling phase. Post-sample weighting further ensures the representativeness of the tabulated data and the analyses.

The 41,622 complete and validated surveys were weighted so that the distribution of the respondents' reported household characteristics match the distributions of nine characteristics of U.S. households in 2016. These nine characteristics are: race/ethnicity, residence type, household size, household income, gender, age, geographic region (A_TAB 2), marital status and education. Each of the 41,622 observations in the final data set includes a unique observation weight. The ranking procedure used to define the weights matches the sums of weights in each characteristic category to their corresponding 2016 census frequencies. A_TAB 3 lists the census frequencies of the weighting variables from the Census Bureau's 2016 Current Population Survey. According to the 2016 Current Population Survey, for example, 63% of all U.S. households resided in a house.

A_TAB 3. NINE HOUSEHOLDS CHARACTERISTICS FOR POST-SAMPLE WEIGHTING

	2016 Census Frequency
Race/Ethnicity	
Hispanic and Other Races	0.132
Non-Hispanic White and Others; Two or More Races	0.690
Non-Hispanic African-American	0.126
Non-Hispanic Asian, Native Hawaiian or Pacific Islander	0.051
Type Of Residence	
House	0.630
Mobile Home	0.059
Apartment or Condominium	0.238
Something Else	0.074
Gender	
Male	0.503
Female	0.497
Household Size	
One Member	0.347
Two Members	0.304
Three or More Members	0.349
Household Income	
Under \$20,000	0.168
\$20,000 to \$39,999	0.199
\$40,000 to \$59,999	0.154
\$60,000 to \$99,999	0.214
\$100,000 and Over	0.264

A_TAB 3. CONTINUED

	2016 Census Frequency
Age	
Under 20	0.032
20 to 39	0.352
40 to 59	0.343
60 and Over	0.273
Geographic Region	
Region One	0.047
Region Two	0.348
Region Three	0.380
Region Four	0.105
Region Five	0.120
Marital Status	
Married or Living as Married	0.496
Divorced	0.181
Widowed	0.097
Single, Never Married	0.226
Education Level	
Less than High School	0.117
High School or GED	0.290
Some College But No Degree	0.191
Associate Degree	0.096
Bachelor's Degree	0.195
Master's Degree (MA, MS, MBA, etc.)	0.082
Ph.D.	0.013
Professional Degree (JD, MD, DVM, etc.)	0.016

The Census data on the type of residence are from the U.S. Bureau of the Census 2015 American Housing Survey, at https://www.census.gov/programs-surveys/ahs/data/interactive/ahstablecreator.html?s_areas=a00000&s_year=n2015&s_tableName=Table1&s_byGroup1=a1&s_byGroup2=a1&s_filterGroup1=t1&s_filterGroup2=g1. Census data on race/ethnicity, gender, household size, household income, age, geographic region, marital status and education level were obtained from the U.S. Bureau of the Census 2016 Current Population Survey, at <https://www.census.gov/cps/data/cpstablecreator.html>.

Rurality

Although there was no explicit stratification to ensure that rural residents would be proportionately represented in the 2017 PDS, post-sample analysis shows how well the distribution of respondents to the 2017 PDS matched the frequency distribution of the 2016 population in general across communities by urban area size (A_TAB 4).

Furthermore, when urbanized area population (called “community size” since the *2012 PDS Sourcebook*) was added to the weighting scheme for a test analysis, the resulting estimates of household pet ownership and the estimated numbers of pets per owning household were found to be within each respective 95% confidence interval (see “Statistical Inference” later in this appendix). That means that although the 2017 PDS data show that pet ownership is in fact inversely related to community size, it was not necessary to weight the 2017 sample with respect to community size.

A_TAB 4. COMMUNITY SIZE DISTRIBUTION 2016 CENSUS, 2017 PDS AND 2012 PDS

Community Size (Urban Area Population)	2016 Census	2017 PDS (Unweighted)	2012 PDS (Unweighted)
Smaller than 100,000	29%	25%	13%
100,000 to 499,999	17%	17%	15%
500,000 to 1,999,999	20%	22%	21%
2 Million or Larger	34%	36%	50%

In contrast, although the 2012 PDS data may have been post-sample weighted, the weighting targets did not reflect the community size distribution in the U.S. population. *2012 Sourcebook* Appendix A, A_TAB 7, page 178, lists the community size “weights” for the 2012 PDS. They are in fact exactly the shares of TNS Global panelists in each community size category (see A_TAB 8, page 175, *2012 PDS Sourcebook*). For example, the “weight” on communities of 2 million or more was .504 (50.4%) for the 2012 PDS. The 2012 sample underrepresents rural households and overrepresents urban households. Given the dependence of pet ownership on rurality, the 2012 sample may have led to underestimated pet-ownership rates.

Gender

Pet ownership rates are also significantly dependent on gender (see Sections 3 and 4 for details). As explained previously in this appendix, the 2017 PDS accounts for gender at both stages: sampling and post-sample weighting. Furthermore, the 2017 PDS survey directly asked two gender questions. One, for each pet species, the 2017 PDS asked, “What is the gender of the person in your household responsible for [pet species] care?” That direct question was not asked on previous PDS surveys. Two, the 2017 asked the gender of the person completing the questionnaire. That question was asked on previous PDS surveys. For the 2012 PDS, however, the gender of the person completing the questionnaire was assumed to be the gender of the person responsible for pet care.

If a survey oversamples the gender most likely to own pets, that survey will overestimate pet-ownership rates. A_TAB 5 shows the gender distributions in the 2016 Census, 2017 PDS and 2012 PDS. Females comprise just under 50% according to census, and are just over 50% in the 2017 PDS. In contrast, more than 80% of the 2012 PDS respondents were female. But there was no post-sample weighting to correct for the overrepresentation of females in the 2012 PDS.

A_TAB 5. GENDER DISTRIBUTION, 2016 CENSUS, 2017 PDS, 2012 PDS

Gender	2016 Census	2017 PDS (Unweighted)	2012 PDS (Not Weighted)
Female	49.7%	50.9%	80.6%
Male	50.3%	49.1%	19.4%

For example, according to the gender-neutral 2017 PDS, dogs are slightly more likely to be owned by females on December 31 than by males: the relative risk factor that females owned a dog is just over 1, at 1.08 (A_TAB 6). But according to the female-biased 2012 PDS, dogs appeared much more likely to be owned by females: the relative risk factor was estimated at 1.29. Female dog owners were overrepresented/male dog owners were underrepresented in 2012.

The gender bias effects on pet-ownership rates appear to have been more severe with respect to cat ownership. The gender-neutral 2017 estimate of the female relative risk of being a cat owner is shown to be 1.23, but it was 1.43 according to the 2012 survey. Female cat owners appear to have been overrepresented in 2012. The estimated female relative risk factor for horse ownership is equally high in 2012 and 2017, at 1.5.

A_TAB 6. UNWEIGHTED DECEMBER 31 PET OWNERSHIP RATES, BY GENDER, 2012 AND 2016 PDS

	Dogs		Cats		Horses	
	2012	2016	2012	2016	2012	2016
Female	38.0%	39.8%	33.0%	29.0%	1.5%	0.9%
Male	29.3%	36.8%	23.1%	23.5%	1.0%	0.6%
Ratio F:M	1.29	1.08	1.43	1.23	1.54	1.5

Thus, the female gender bias in the 2012 PDS is likely to have contributed to overestimating the 2011 cat population. Other sampling biases, such as the 2011 urban bias documented previously, might have offset some of the overestimation of the 2011 cat ownership rate, while further downward-biasing the 2011 dog ownership rate.

Statistical Inference

The percentage estimates derived from the weighted survey responses were used to calculate national population estimates. The precision of any estimate varies with the representativeness of the sample, the sample size and the variation in the characteristic analyzed.

The percent of households who owned dogs and cats were also estimated for each state. A_TAB 7 reports the estimated percentages of households who owned dogs at any time during 2016, and the corresponding 95% confidence intervals. With 95% confidence, for example, we estimate that between 39.4% and 40.7% of U.S. households owned at least one dog at some time during 2016. The U.S. Census Bureau reported that there were 125.8 million households in 2016. Thus, we estimate that 40.1% of those households, or 50.5 million households, owned at least one dog at some time in 2016.

All confidence intervals are computed, however, under the assumption that the sample is purely random, and unbiased. Convenience sampling and biased screening can render the underlying assumption of unbiasedness inappropriate (see the final section in this appendix).

Because the sample sizes in each state are smaller than the national sample size, the statistical error and the confidence interval associated with the estimated percent of households who owned a pet in any one state is larger than the statistical error or confidence interval associated with the nationwide percentage.

A_TAB 7. PERCENT OF HOUSEHOLDS WHO OWNED AT LEAST ONE DOG ANYTIME IN 2016, AND THE 95% CONFIDENCE INTERVALS, AT THE NATIONWIDE AND STATE LEVELS

	Households Who Owned at Least One Dog at Any Time in 2016	95% Confidence Intervals	
	Estimated Percent	Low	High
U.S.	40.1%	39.4%	40.7%
AK	45.4%	25.5%	65.4%
AL	49.6%	43.2%	55.9%
AR	54.9%	47.0%	62.9%
AZ	46.2%	40.9%	51.6%
CA	41.5%	39.5%	43.6%
CO	47.8%	43.1%	52.5%
CT	27.4%	22.6%	32.3%
DC	22.5%	11.5%	33.5%
DE	43.4%	32.4%	54.4%
FL	41.2%	38.7%	43.7%
GA	38.8%	34.5%	43.2%
HI	28.6%	21.4%	35.8%
IA	38.2%	31.1%	45.4%
ID	61.1%	52.2%	70.1%
IL	32.1%	28.5%	35.7%
IN	50.4%	45.2%	55.6%
KS	46.0%	39.4%	52.7%
KY	48.5%	41.7%	55.3%

A_TAB 7. CONTINUED

	Households Who Owned at Least One Dog at Any Time in 2016	95% Confidence Intervals	
	Estimated Percent	Low	High
LA	39.0%	30.8%	47.2%
MA	29.9%	25.8%	34.0%
MD	31.6%	27.4%	35.8%
ME	36.9%	28.2%	45.6%
MI	43.7%	39.5%	47.8%
MN	36.4%	30.3%	42.5%
MO	46.6%	40.8%	52.5%
MS	52.2%	42.7%	61.6%
MT	53.5%	39.5%	67.4%
NC	42.4%	38.4%	46.4%
ND	46.7%	33.6%	59.8%
NE	48.0%	39.3%	56.7%
NH	24.2%	16.8%	31.6%
NJ	30.1%	26.6%	33.6%
NM	40.2%	30.3%	50.2%
NV	40.6%	34.2%	47.0%
NY	29.5%	27.1%	31.9%
OH	39.3%	35.6%	42.9%
OK	51.1%	43.8%	58.4%
OR	38.1%	32.5%	43.8%
PA	40.7%	37.0%	44.5%
RI	27.1%	18.1%	36.1%
SC	47.9%	42.3%	53.6%
SD	35.8%	24.1%	47.4%
TN	48.0%	42.2%	53.7%
TX	46.0%	43.3%	48.6%
UT	38.3%	30.1%	46.5%
VA	36.9%	32.7%	41.2%
VT	28.9%	15.4%	42.5%
WA	44.3%	40.2%	48.3%
WI	35.0%	30.7%	39.3%
WV	50.8%	41.0%	60.7%
WY	50.2%	32.7%	67.7%

Similarly, A_TAB 8 reports the estimated percent of households who owned cats at any time during 2016, and the corresponding 95% confidence intervals.

A_TAB 8. PERCENT OF HOUSEHOLDS WHO OWNED AT LEAST ONE CAT ANYTIME IN 2016, AND THE 95% CONFIDENCE INTERVALS, AT THE NATIONWIDE AND STATE LEVELS.

	Households Who Owned at Least One Cat at Any Time in 2016	95% Confidence Intervals	
	Estimated Percent	Low	High
U.S.	26.5%	25.9%	27.2%
AK	14.0%	5.3%	22.6%
AL	28.6%	22.9%	34.2%
AR	38.3%	29.8%	46.9%
AZ	27.6%	23.2%	32.1%
CA	23.7%	22.0%	25.4%
CO	27.8%	22.6%	33.0%
CT	27.5%	21.8%	33.2%
DC	36.1%	15.5%	56.7%
DE	24.1%	15.7%	32.6%
FL	24.9%	22.6%	27.3%
GA	21.6%	18.5%	24.8%
HI	14.3%	8.5%	20.1%
IA	37.3%	30.4%	44.3%
ID	34.4%	23.4%	45.5%
IL	22.4%	19.7%	25.1%
IN	38.1%	33.2%	43.0%
KS	33.3%	26.8%	39.9%
KY	34.3%	28.4%	40.1%
LA	19.7%	14.9%	24.6%
MA	24.7%	21.0%	28.3%
MD	19.3%	15.9%	22.8%
ME	43.7%	33.2%	54.2%
MI	32.0%	27.9%	36.2%
MN	27.0%	21.9%	32.2%
MO	29.9%	24.7%	35.0%
MS	30.0%	20.6%	39.5%
MT	23.7%	13.7%	33.7%
NC	27.3%	23.5%	31.1%
ND	25.5%	14.4%	36.7%
NE	31.6%	18.3%	45.0%
NH	37.6%	27.4%	47.7%
NJ	19.8%	16.7%	23.0%

A_TAB 8. CONTINUED

	Households Who Owned at Least One Cat at Any Time in 2016	95% Confidence Intervals	
	Estimated Percent	Low	High
NM	26.3%	16.8%	35.8%
NV	27.2%	21.0%	33.3%
NY	21.9%	19.9%	24.0%
OH	32.3%	28.4%	36.1%
OK	29.0%	22.4%	35.5%
OR	31.0%	24.6%	37.4%
PA	30.5%	27.4%	33.7%
RI	24.8%	14.4%	35.2%
SC	26.5%	21.1%	32.0%
SD	26.6%	15.1%	38.0%
TN	32.3%	27.8%	36.9%
TX	22.1%	19.8%	24.3%
UT	25.1%	19.5%	30.7%
VA	25.7%	21.8%	29.6%
VT	45.8%	28.2%	63.4%
WA	32.4%	28.2%	36.5%
WI	33.6%	29.2%	38.0%
WV	38.5%	29.0%	47.9%
WY	29.9%	16.5%	43.3%

Finally, pet populations are calculated based on the percent of households who owned the pet on December 31, 2016, multiplied by the average number of the pets owned per household, times the census count of households at that time.

A_TAB 9 shows the national, regional and state-level estimates of the percent of households who owned dogs, the average number of dogs owned on December 31 by those who owned dogs, the calculated dog populations, and the lower and upper bounds on the 95% confidence intervals for each of these statistics.

A_TAB 9. DOG OWNERSHIP ON DECEMBER 31, 2016, AT THE NATIONAL, REGIONAL AND STATE LEVELS, WITH 95% CONFIDENCE INTERVALS

	Percent of Households Who Owned a Dog on December 31, 2016			Average Number of Dogs per Dog-Ownning Household			Dog Population (in 1,000s)		
	Low	%	High	Low	Number	High	Low	Pop.	High
United States	37.7%	38.4%	39.0%	1.6	1.6	1.6	74,915	76,810	78,706
New England	24.7%	27.4%	30.0%	1.3	1.4	1.5	2,009	2,278	2,547
CT	19.0%	24.0%	29.0%	1.2	1.4	1.5	361	466	570
ME	25.2%	35.9%	46.6%	1.3	1.5	1.7	209	324	439
MA	24.8%	28.9%	32.9%	1.2	1.4	1.5	897	1,096	1,294
NH	15.8%	23.7%	31.5%	1.2	1.4	1.6	112	165	219
RI	16.4%	25.8%	35.3%	1.2	1.4	1.7	101	167	234
VT	13.5%	28.3%	43.1%	1	1.3	1.6	42	96	151
Middle Atlantic	29.2%	30.9%	32.6%	1.3	1.4	1.4	6,447	6,885	7,322
NJ	25.6%	29.1%	32.5%	1.2	1.3	1.3	1,096	1,253	1,409
NY	24.7%	27.0%	29.3%	1.3	1.4	1.4	2,583	2,858	3,133
PA	35.2%	38.9%	42.6%	1.3	1.4	1.5	2,525	2,827	3,129
East North Central	35.9%	37.8%	39.7%	1.5	1.6	1.6	10,399	11,188	11,978
IL	27.6%	31.0%	34.3%	1.3	1.4	1.5	1,969	2,230	2,491
IN	44.2%	49.4%	54.6%	1.5	1.6	1.7	1,857	2,142	2,427
MI	37.8%	41.9%	46.0%	1.5	1.6	1.8	2,385	2,763	3,140
OH	34.2%	37.9%	41.5%	1.5	1.7	1.8	2,550	2,973	3,396
WI	29.3%	33.6%	37.8%	1.3	1.4	1.5	975	1,141	1,307
West North Central	37.7%	40.5%	43.4%	1.5	1.6	1.7	4,976	5,495	6,014
IA	28.9%	36.3%	43.8%	1.3	1.8	2.2	558	834	1,111
KS	34.4%	43.1%	51.9%	1.4	1.6	1.7	605	770	936
MN	29.2%	35.5%	41.8%	1.3	1.4	1.5	894	1,102	1,309
MO	39.3%	45.1%	51.0%	1.5	1.6	1.8	1,503	1,798	2,093
NE	36.1%	47.1%	58.1%	1.5	1.8	2.1	432	634	836
ND	26.6%	44.3%	62.0%	1.1	1.5	1.8	111	213	316
SD	18.8%	32.1%	45.5%	1	1.3	1.6	88	149	209

A_TAB 9. CONTINUED

	Percent of Households Who Owned a Dog on December 31, 2016			Average Number of Dogs per Dog-Ownning Household			Dog Population (in 1,000s)		
	Low	%	High	Low	Number	High	Low	Pop.	High
South Atlantic	37.2%	38.7%	40.2%	1.5	1.6	1.7	14,881	15,741	16,600
DE	30.5%	42.2%	53.8%	1.4	1.8	2.3	181	310	438
DC	0.0%	22.5%	59.7%	1	1	1	0	72	192
FL	37.2%	39.8%	42.3%	1.5	1.5	1.6	4,642	5,073	5,505
GA	32.5%	36.7%	40.9%	1.6	1.8	1.9	2,197	2,573	2,950
MD	25.9%	30.2%	34.5%	1.3	1.4	1.5	809	963	1,116
NC	37.3%	41.3%	45.4%	1.5	1.6	1.8	2,394	2,742	3,090
SC	39.2%	45.3%	51.4%	1.4	1.6	1.7	1,200	1,423	1,647
VA	31.4%	35.6%	39.9%	1.3	1.7	2	1,473	1,946	2,418
WV	38.4%	49.6%	60.8%	1.4	1.7	2	446	637	828
East South Central	44.2%	47.4%	50.5%	1.8	1.9	1.9	6,229	6,790	7,351
AL	40.2%	46.9%	53.7%	1.7	1.9	2.2	1,440	1,812	2,185
KY	39.9%	46.5%	53.2%	1.7	1.9	2.1	1,344	1,620	1,897
MS	41.3%	51.0%	60.8%	1.7	2.1	2.4	896	1,213	1,530
TN	41.2%	47.0%	52.8%	1.5	1.7	1.9	1,870	2,194	2,518
West South Central	41.6%	43.9%	46.3%	1.7	1.7	1.8	10,432	11,193	11,953
AR	43.3%	51.6%	59.9%	1.5	1.8	2	873	1,103	1,333
LA	30.5%	38.3%	46.1%	1.4	1.6	1.7	858	1,100	1,343
OK	40.3%	47.7%	55.1%	1.7	1.8	2	1,152	1,397	1,643
TX	40.7%	43.4%	46.1%	1.6	1.7	1.8	6,959	7,570	8,182
Mountain	40.3%	43.0%	45.8%	1.6	1.7	1.8	6,131	6,722	7,312
AZ	38.0%	43.0%	48.1%	1.6	1.8	2	1,677	2,001	2,326
CO	42.1%	47.2%	52.3%	1.5	1.6	1.7	1,447	1,676	1,905
ID	48.5%	58.2%	68.0%	1.5	1.7	1.9	505	644	784
MT	35.5%	51.9%	68.2%	1.6	2.1	2.7	286	481	676
NV	30.3%	36.8%	43.2%	1.4	1.6	1.8	525	669	813
NM	29.3%	39.4%	49.6%	1.5	2	2.4	410	618	826
UT	28.0%	36.2%	44.3%	1.4	1.6	1.7	439	576	712
WY	14.2%	36.1%	58.0%	1.1	1.7	2.2	50	146	242
Pacific	38.2%	39.9%	41.6%	1.5	1.6	1.6	10,813	11,403	11,992
AK	25.3%	45.4%	65.6%	1.4	1.7	1.9	107	198	288
CA	38.1%	40.1%	42.1%	1.5	1.6	1.6	8,162	8,690	9,218
HI	19.9%	27.8%	35.6%	1.2	1.4	1.6	137	189	242
OR	32.1%	37.8%	43.6%	1.4	1.6	1.9	767	997	1,227
WA	38.6%	42.8%	47.0%	1.4	1.5	1.6	1,612	1,846	2,079

A_TAB 10 shows the national, regional and state-level estimates of the percent of households who owned cats, the average number of cats owned on December 31 by those who owned cats, the calculated cat populations, and the lower and upper 95% confidence intervals for each of these statistics.

A_TAB 10. CAT OWNERSHIP ON DECEMBER 31, 2016, AT THE NATIONAL, REGIONAL AND STATE LEVELS, WITH 95% CONFIDENCE INTERVALS

	Percent of Households Who Owned a Cat on December 31, 2016			Average Number of Cats per Cat-Owning Household			Cat Population (in 1,000s)		
	Low	%	High	Low	Number	High	Low	Pop.	High
United States	24.7%	25.4%	26.0%	1.79	1.8	1.87	56,551	58,384	60,216
New England	24.2%	26.9%	29.5%	1.6	1.7	1.78	2,412	2,712	3,013
CT	21.0%	26.7%	32.5%	1.69	1.9	2.17	559	738	918
ME	31.8%	43.6%	55.4%	1.61	1.9	2.17	351	500	648
MA	19.9%	23.5%	27.1%	1.47	1.6	1.71	846	1,012	1,179
NH	26.1%	36.4%	46.7%	1.24	1.5	1.67	191	266	341
RI	8.9%	16.7%	24.5%	1.53	2	2.49	74	151	228
VT	24.0%	44.6%	65.3%	1.01	1.3	1.52	88	150	212
Middle Atlantic	21.5%	22.9%	24.3%	1.68	1.8	1.97	6,130	6,857	7,585
NJ	15.9%	18.9%	22.0%	1.43	1.6	1.69	839	1,009	1,179
NY	19.1%	21.1%	23.1%	1.59	1.7	1.84	2,519	2,841	3,163
PA	25.7%	28.9%	32.0%	1.72	2.1	2.46	2,418	3,084	3,750
East North Central	27.7%	29.3%	31.0%	1.75	1.8	1.9	9,397	10,153	10,909
IL	18.4%	21.0%	23.7%	1.58	1.7	1.82	1,563	1,839	2,115
IN	32.2%	37.5%	42.7%	1.69	1.9	2.18	1,579	1,936	2,293
MI	27.2%	31.2%	35.3%	1.61	1.7	1.89	1,886	2,222	2,558
OH	26.9%	30.7%	34.5%	1.69	1.9	2.05	2,219	2,685	3,152
WI	28.0%	32.4%	36.8%	1.7	1.9	2.09	1,215	1,467	1,719
West North Central	26.8%	29.5%	32.1%	1.78	2	2.17	4,238	4,939	5,639
IA	28.5%	35.6%	42.6%	1.59	2	2.36	659	913	1,166
KS	24.8%	32.4%	39.9%	1.41	2.1	2.86	449	785	1,121
MN	21.4%	26.5%	31.6%	1.42	1.9	2.31	742	1,108	1,473
MO	23.5%	28.6%	33.7%	1.61	1.9	2.2	985	1,319	1,652
NE	18.3%	30.9%	43.4%	1.44	2.3	3.14	210	520	830
ND	12.3%	24.8%	37.2%	1.1	2.8	4.56	47	230	413
SD	14.2%	26.6%	38.9%	1.12	1.4	1.69	66	133	199

A_TAB 10. CONTINUED

	Percent of Households Who Owned a Cat on December 31, 2016			Average Number of Cats per Cat-Owning Household			Cat Population (in 1,000s)		
	Low	%	High	Low	Number	High	Low	Pop.	High
South Atlantic	22.5%	23.8%	25.2%	1.75	1.8	1.92	10,326	11,079	11,832
DE	15.4%	24.1%	32.9%	1.46	1.8	2.05	102	169	236
DC	0.0%	16.4%	39.7%	1	1	1	0	53	127
FL	22.0%	24.2%	26.5%	1.68	1.8	1.9	3,193	3,584	3,974
GA	17.3%	20.4%	23.4%	1.76	2.1	2.44	1,306	1,710	2,115
MD	15.0%	18.6%	22.2%	1.46	1.7	1.88	549	703	857
NC	22.7%	26.5%	30.3%	1.6	1.8	2.01	1,610	1,916	2,223
SC	19.8%	25.2%	30.5%	1.35	1.6	1.86	632	809	985
VA	20.3%	23.9%	27.4%	1.62	1.9	2.15	1,171	1,491	1,810
WV	27.0%	37.7%	48.3%	1.68	2.1	2.5	408	595	781
East South Central	27.1%	29.9%	32.6%	1.76	1.9	2.07	3,878	4,435	4,993
AL	20.5%	26.1%	31.8%	1.4	1.7	1.92	658	859	1,060
KY	26.4%	32.2%	38.0%	1.58	1.8	1.94	872	1,065	1,257
MS	19.6%	29.1%	38.6%	1.52	2	2.42	399	661	924
TN	26.3%	30.9%	35.4%	1.83	2.2	2.47	1,420	1,819	2,219
West South Central	20.4%	22.3%	24.2%	1.77	1.9	2.08	5,566	6,343	7,119
AR	26.3%	34.8%	43.2%	1.63	2.1	2.53	565	876	1,186
LA	14.3%	19.0%	23.8%	1.43	1.7	1.92	424	590	756
OK	21.8%	28.4%	34.9%	1.44	1.8	2.1	554	795	1,037
TX	18.3%	20.5%	22.7%	1.75	2	2.17	3,419	4,066	4,713
Mountain	23.7%	26.1%	28.4%	1.7	1.8	1.93	3,818	4,301	4,784
AZ	22.0%	26.4%	30.8%	1.71	2	2.24	1,078	1,365	1,652
CO	22.0%	27.1%	32.3%	1.46	1.6	1.75	764	967	1,170
ID	22.0%	33.1%	44.3%	1.52	2	2.46	214	427	639
MT	12.0%	22.8%	33.6%	1.47	1.8	2.04	84	174	264
NV	17.1%	23.1%	29.0%	1.4	1.7	1.91	321	427	533
NM	15.3%	25.2%	35.1%	1.43	1.8	2.13	212	357	502
UT	18.8%	24.7%	30.7%	1.56	1.9	2.31	349	486	623
WY	12.8%	29.9%	47.0%	1.06	1.8	2.55	50	130	210
Pacific	22.9%	24.3%	25.8%	1.66	1.7	1.82	7,184	7,758	8,331
AK	3.8%	12.6%	21.4%	1.03	1.4	1.73	13	46	78
CA	21.3%	22.9%	24.6%	1.65	1.7	1.84	5,088	5,571	6,055
HI	8.1%	13.9%	19.7%	1.19	1.8	2.45	68	120	171
OR	23.6%	30.0%	36.4%	1.47	1.6	1.81	615	790	964
WA	26.4%	30.5%	34.6%	1.57	1.8	1.95	1,270	1,527	1,783

The percent of households who owned birds and who owned horses are estimated at the national and multi-state regional levels only, because the numbers of state-level observations were too few for the desired level of statistical precision at the state level.

A_TAB 11 shows the national and regional-level estimates of the percent of households who owned horses as pets, the average number of pet horses owned on December 31 by those who owned horses, the calculated horse populations, and the lower and upper 95% confidence intervals for each of these statistics.

A_TAB 11. HORSE OWNERSHIP ON DECEMBER 31, 2016, AT THE NATIONAL AND REGIONAL LEVELS, WITH 95% CONFIDENCE INTERVALS

	Percent of Households Who Owned a Horse on December 31, 2016			Average Number of Horses per Horse-Ownning Household			Horse Population (in 1,000s)		
	Low	%	High	Low	#	High	Low	Pop.	High
United States	0.59%	0.71%	0.83%	1.9	2.1	2.4	1,516	1,914	2,312
New England	0.11%	0.34%	0.58%	0.9	1.3	1.7	7	27	46
Middle Atlantic	0.17%	0.30%	0.42%	1.4	2	2.6	49	98	147
East North Central	0.34%	0.58%	0.82%	1.7	2.1	2.6	127	233	338
West North Central	0.33%	0.66%	0.99%	1.5	2	2.6	54	115	176
South Atlantic	0.36%	0.65%	0.94%	1.1	1.8	2.5	139	300	461
East South Central	0.51%	0.92%	1.33%	1.6	2.7	3.7	71	189	306
West South Central	0.78%	1.27%	1.77%	1.9	2.4	2.9	244	452	660
Mountain	0.60%	1.10%	1.59%	1.2	2.4	3.6	65	240	415
Pacific	0.43%	0.82%	1.22%	1.4	2.1	2.7	166	317	468

Why do pet population estimates differ?

The AVMA is well aware of the widely divergent estimated rates of pet ownership and pet populations in the United States. For example, the American Pet Products Association estimated that in 2016 about 50% of households had dogs and 39% had cats, 10% above the dog rate and 13% above the cat ownership rate estimated here¹. In the other direction, Experian-Simmons estimated a 40% dog-ownership rate and a 24% rate of cat ownership in 2016—exactly the same as the dog-ownership rate estimated here, and just 2% lower than our estimated rate of cat ownership².

We can now explain—and demonstrate (see A_TAB 12)—the reasons why some pet ownership rate estimates are too high. There are three main reasons:

- 1) Non-representative respondents (or, “convenience sampling”)
- 2) No correction to achieve representativeness (no “weighting”)
- 3) Including invalid and erroneous responses (no “screening”).

¹ American Pet Products Association http://www.americanpetproducts.org/Uploads/NPOS/NPOS1718_BackgroundPurpose.pdf

² Experian Marketing Services, Simmons National Consumer Surveys https://pida.memberclicks.net/assets/PILC16presentations/pilc_sprinkle_pet_product_trends_part_1.pdf

The main reason behind overestimates of the rates of pet ownership—and thus, pet populations—is **non-representative respondents**. Surveys are implemented by panel providers such as SSI (used for this survey), TNS Global (used for all previous PDS surveys), IPSOS (used by the APPA) and so on. If the sampling is not stratified, the resulting sample will consist of the people who answered first. It's the **least costly and most convenient** way to get some kind of answers to one's survey.

Although all panel providers attempt to collect answers from a representative set of respondents, one must design and implement a sampling strategy (as we have here) to counteract "**non-response bias**" and avoid overestimating pet ownership. Non-response bias results when some types of people don't complete surveys while other types of people do.

In general, most people don't enjoy completing surveys. That is why panel members are paid or rewarded in some way. In contrast, we learned that pet owners enjoy answering surveys about their pets during our Pilot studies. Thus, pet owners are likely to be overrepresented in surveys about pets, all else equal. The ways to minimize that upward bias are to design and implement a sampling strategy and to **post-sample weight** the respondents, as we have here.

The other very important reason to post-sample weight is to correct for the fact that each household's characteristics, such as income and residence type—very important determinants of pet ownership and spending on pet health care—change over time. The way to minimize the potential bias resulting from erroneously associating current pet ownership with past income or residential characteristics is to **obtain current household data** as part of the pet ownership survey, as we have done here.

Finally, because a panelist's reward for completing a survey is higher the more questions they answer, **responses may be fabricated** so the respondent earns more. The 2017 PDS asked many more questions of pet owners than non-owners. Thus, we expect more fabricated answers about pet-ownership than from non-pet-owning respondents. There is no way to know for sure which respondents honestly answered the pet-ownership questions. One way to reduce that bias is to **screen out respondents whose answers make no sense**. That is what we have done here.

We screened out respondents who reported, for example, that they spayed three cats after reporting that they owned just one cat all year. We screened out respondents who reported, for example, that they spent \$150 on their one dog at the veterinarian in total last year while also reporting they spent \$7,500 just on routine/preventive care for one dog at the veterinarian.

Screening-out respondents whose answers about veterinary use and expenditure were grossly internally inconsistent like the actual examples above has two effects. First, it greatly enhances the accuracy of the estimates of spending on pet health care. The AVMA's 2015 Pilot study showed that when internally inconsistent responses were excluded, the legacy question, "How much money did you spend at the veterinarian on (all) your dog(s) in total last year?" predicted actual spending at the veterinarian extremely well—\$0.99 per dollar actually spent.

However, screening based on answers about spending on pet health care also reduces the numbers of pet owners relative to the numbers of non-pet-owners. One way to compensate for that is to **post-sample weight after screening**. We have also done that here.

Appendix A_TAB 12 documents how each of the best practices explained above, and that we applied, affected our own estimated rates of pet ownership.

The first two columns show the response tallies and estimated rates of pet ownership "anytime" resulting from what we call our "convenience sample." These are the data from the earliest respondents to the 2017 PDS survey. They are people for whom responding was most convenient or compelling. To some extent these estimates also reflect our aggressive stratified sampling design that was already in place. But we know that this sample was not representative of the U.S. population because many strata were not yet filled. Many subsets of the U.S. population were underrepresented. The convenience sample resulted in an overestimated dog ownership rate of 51% and an overestimated cat ownership rate of 35% (11% and 8% above our final estimates).

A_TAB 12. CONVENIENCE, STRATIFIED, CLEANED, SCREENED AND WEIGHTED SAMPLE RESULTS

	Convenience Sample		Stratified and Cleaned Sample		Screened Sample		Weighted, Stratified, Cleaned and Screened Sample	
Dogs	18,307	50.9%	23,900	47.5%	16,578	39.8%	16,680	40.1%
Cats	12,590	35.0%	15,995	31.8%	11,409	27.4%	11,049	26.5%
Horses	441	1.2%	535	1.1%	337	0.8%	331	0.8%
Birds	1,323	3.7%	1,699	3.4%	1,281	3.1%	1,265	3.0%
Fish	4,179	11.6%	5,342	10.6%	4,091	9.8%	4,005	9.6%
Rabbits	746	2.1%	868	1.7%	615	1.5%	646	1.6%
Ferrets	180	0.5%	205	0.4%	128	0.3%	122	0.3%
Reptiles (Turtle, Snake, Lizard,...)	1,463	4.1%	1,788	3.6%	1,372	3.3%	1,362	3.3%
Pet Livestock (Pig, Goat,...)	307	0.9%	363	0.7%	239	0.6%	254	0.6%
Pet Poultry (Duck, Chicken,...)	640	1.8%	774	1.5%	576	1.4%	570	1.4%
Other Mammals (Gerbil, Hamster, Monkey,...)	886	2.5%	1,143	2.3%	924	2.2%	853	2.0%
Other #1	332	0.9%	110	0.2%	101	0.2%	119	0.3%
Other #2	29	0.1%	-	0.0%	-	0.0%	-	0.0%
I Did Not Have any Pets in My Household	10,622	29.5%	16,907	33.6%	16,879	40.6%	16,998	40.8%
Total	35,951	100.0%	50,265	100.0%	41,622	100.0%	41,622	100.0%
Shares of Difference								
	Convenience Sample	2017 PDS	Difference		Stratify	Screen	Weight	
Dogs	50.9%	40.1%	-10.8%		-3.4%	-7.7%	0.2%	
					31.1%	71.1%	-2.2%	
Cats	35.0%	26.5%	-8.5%		-3.2%	-4.4%	-0.9%	
					37.7%	52.0%	10.2%	
Horses	1.2%	0.8%	-0.4%		-0.2%	-0.3%	0.0%	
					37.7%	59.2%	3.1%	
Birds	3.7%	3.0%	-0.6%		-0.3%	-0.3%	0.0%	
					46.9%	47.2%	5.9%	

The next two columns in A_TAB 12 show the full stratified sample after cleaning. “Cleaning” the data consists of dropping algorithmically detectable erroneous respondents, such as those who entered “123” and “123” and “123” at each opportunity. Cleaning also reassigned hundreds of write-in “Other” pets to their appropriate species. Cleaning, together with stratification—which went a long way to ensure sample representativeness—lowered the overestimated pet ownership rates to 47.5% for dogs, and 31.8% for cats.


The third pair of columns show our stratified, cleaned and screened sample. Screening clearly reduced the numbers of pet owners in the sample but barely changed the number of non-pet owners. The estimated pet ownership rates fell to 39.8% for dogs and to 27.4% for cats.

The final pair of columns shows the post-sample and post-screen weighted, cleaned and representative respondent numbers, and our final estimates of pet ownership rates: 40.1% for dogs and 26.6% for cats.

In sum, as summarized in the bottom rows of A_TAB 12, improving the representativeness of the sample (“stratify”) accounted for about 3 percentage points, or 31% of the difference between the convenience sample overestimate of the rate of dog ownership and 38% of the difference in the cat ownership rate.

Getting rid of erroneous responses (“screen”) accounted for almost eight of the percentage points, or 71% of the difference between the overestimated convenience sample rate of dog ownership and our final estimate, and 4.4, or 52%, of the difference in the cat ownership rates.

Weighting, which ensures the representativeness of our final estimates (“weight”), actually raised our estimate of the dog ownership rate, accounting for 2% of the difference. Meanwhile, weighting further reduced the overestimated cat ownership rate, by under 1%, accounting for 10% of the difference between our first overestimate and our final estimate.



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