

Owner attitudes toward screening for early cancer detection in pet dogs

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INTRODUCTION

Cancer is the leading cause of canine death, affecting up to 1 in 3 dogs. Cancer in dogs is typically diagnosed at later stages after the occurrence of overt clinical signs when the prognosis is poor, and treatment options may be more limited or more costly.

Clinical experience in human medicine has established that early cancer detection can save lives by allowing surgical removal of localized malignancies and additional treatment options that may have higher efficacy if used earlier in the course of the disease. Noninvasive pan-cancer screening tests (known as “liquid biopsies”) are being developed to detect early-stage cancer in humans and will likely be developed for dogs in the near future.

METHODS

Two independent surveys of US dog owners were conducted in late 2019 using similar open- and closed-ended questions. Frost & Sullivan (N = 506) used a choice model method focused on respondents in 20 metro areas. GroupSolver (N = 2,004) used a dynamic method to build consensus answers to questions across diversified zip codes. Dog ownership was required for survey inclusion.

Among a variety of topics, the surveys sought to evaluate dog owner awareness of the risk of canine cancer and willingness to pursue proactive screening for cancer in their pet dogs. The surveys also investigated which factors correlated most strongly with a willingness to pursue early cancer screening and evaluated willingness to treat canine cancer, including spending thresholds for oncology care. Finally, dog owners were asked to indicate which sources of information they consider to be most trustworthy regarding preventive care for their pet dogs.

Demographics of Survey Respondents

Demographic	GroupSolver	Frost & Sullivan
Total sample size (n)	2,004	506
Average age (years)	43.25	44
Bachelor's degree or higher	32%	41%
Female : Male Ratio	57 : 43	63 : 37
Avg household income (\$)	\$59,000	\$86,619
Avg dogs currently owned	1.57	1.60
Avg dogs owned in lifetime	5.35	2.60
Experience with cancer in prior dogs	23%	32%

Canine Cancer Awareness

The GroupSolver survey asked, “How common do you think cancer is in dogs?,” and 61% responded ‘common’ or ‘very common,’ with only 3% responding ‘very rare.’ Similarly, the Frost & Sullivan survey found that 73% of dog owners agreed with the statement, “I am aware of the risk of cancer in dogs.”

Experience with Cancer

Approximately one-quarter of all respondents reported that they had experience with cancer in a prior pet dog, and GroupSolver respondents recalled specific challenges they faced. (Figure 1)

Question: “Think about your experience with your dog’s cancer. What were the biggest challenges you faced in that situation?”

FIGURE 1 N = 376

Suffering I do not like my dog to be sick
Ensuring my dog did not suffer with pain
Keeping my dog pain free **Quality of Life**
Emotional Making my dog comfortable
Not being able to save my dog **The loss of our pet**

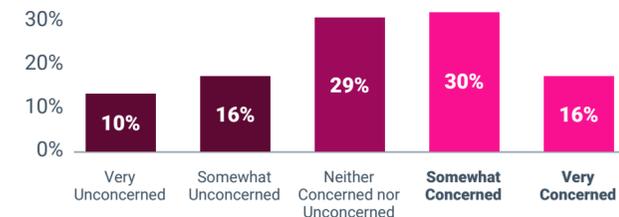
Figure 1 depicts common themes expressed by the subset of respondents who had experience with cancer in prior dogs and provided free-text responses.

Concern for Future Canine Cancer Diagnosis

Nearly half of all dog owners in the GroupSolver survey reported that they were ‘somewhat’ or ‘very concerned’ about their dog getting diagnosed with cancer in the future. (Figure 2)

Question: “How concerned are you that your dog(s) may get diagnosed with cancer in the future?”

FIGURE 2 N = 2,004



Owner Motivations for Screening

The Frost & Sullivan survey inquired about the primary motivating factors for engaging in early cancer screening for pet dogs, and the top 3 responses were:

- 1) “I want my dog to live a full life”
- 2) “If cancer is caught early, a cure is more attainable”
- 3) “If cancer is caught early, achieving a cure is more affordable”

Perceived Value of Early Cancer Screening

The GroupSolver survey identified specific themes from answers to open-ended questions about the perceived value of performing early cancer screening in pet dogs. (Table 2)

TABLE 2 N = 2,004

Theme 1 – Early Detection	Support Strength*
“Early diagnosis”	95%
“Early detection”	93%
Theme 2 – Better Outcomes	Support Strength*
“Could save my best friend’s life”	93%
“Find out at an early stage when the cancer is treatable”	93%
“If caught early, might be able to save pet”	93%
Theme 3 – Preventive Measures	Support Strength*
“I think it’s of great value; It could save you from losing a family member like a dog”	91%
“It would help in knowing what to expect in the future in regards to their health”	91%

Owner Reactions to Early Diagnosis

The GroupSolver survey explored what pet owners would do in the scenario in which early-stage cancer was detected. (Table 3)

Question: “If you were to detect cancer in your dog at an early stage, what would you do?”

TABLE 3 N = 2,004

Theme 1 – Take to the Vet	Support Strength*
“Take them to the vet as soon as I could”	95%
“I would need input from the vet for treatment”	87%
“Make a vet appointment for testing”	83%
Theme 2 – Treatment	Support Strength*
“Get him the best treatment”	93%
“Hope we can cure him”	89%
“Take steps to help her overcome it”	85%
Theme 3 – Prolong Life	Support Strength*
“Start steps to give her the longest life I could”	91%
“I would try to prolong his life by way of vet recommendation”	91%

* Support strength is the conservative estimate (lower bound of 90% confidence level) of the expected likelihood that a respondent would agree with the presented statement. Comments in quotes were taken directly from the free-text entries of GroupSolver survey respondents.

RESULTS

Treatment Options for Early vs. Late-Stage Cancer

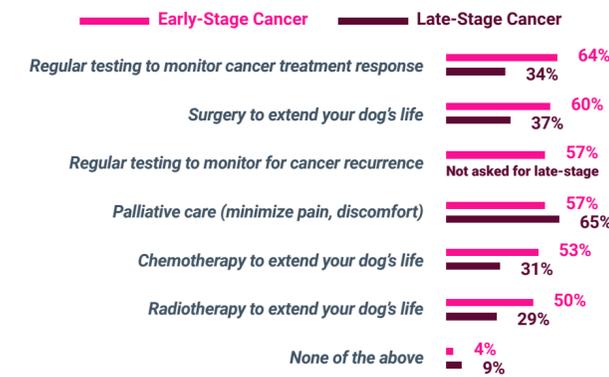
The Frost & Sullivan survey evaluated willingness to pursue specific treatment options in the case of early-stage versus late-stage cancer diagnosis. Owners were more willing to pursue treatment for early-stage cancer. (Figure 3)

Questions:

EARLY-STAGE: “If your dog had early-stage cancer that has a high chance of being cured, which of the following options would you be willing to consider?”

LATE-STAGE: “If your dog had late-stage cancer that could not be cured, which of the following options would you be willing to consider?”

FIGURE 3 N = 506



Spending for Early vs. Late-Stage Cancer Treatment

The Frost & Sullivan survey indicated that willingness to spend on treatment for early-stage cancer and late-stage cancer was comparable. (Figure 4)

Questions:

EARLY-STAGE: “Roughly how much would you be willing to spend for your dog’s early-stage cancer treatment?”

LATE-STAGE: “Roughly how much would you be willing to pay to extend your dog’s life, even if you could not cure the cancer?”

FIGURE 4 N = 506

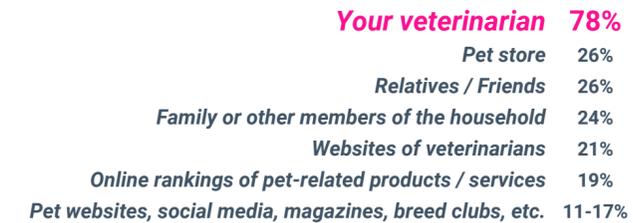


Trusted Information Sources

When GroupSolver asked where dog owners would prefer to obtain information if they suspected their dog of having cancer, 87% reported they would go to their veterinarian, followed by 24% relying on Google or another search engine and 23% on other dog-related websites; 15% indicated that they would confer with friends and family.

More generally, when Frost & Sullivan asked about preventive care informational resources, the veterinarian was once again the most trusted source of information by far. (Figure 5)

FIGURE 5 N = 506



Characteristics of Dog Owners Most Likely to Pursue Early Cancer Screening

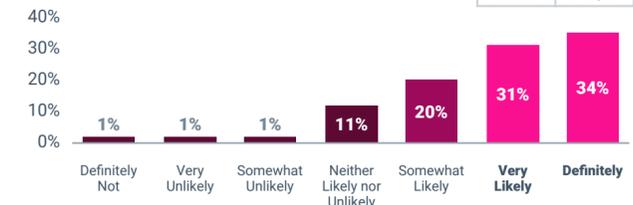
Dog owners who were most likely to pursue early cancer screening self-identified as someone who keeps up-to-date with routine pet care and is most likely to “pamper” their pets, as reflected in statements such as:

- “I spend for my pet dog more than most dog owners”
- “I tend to pamper my dog by spending on various pet services”
- “The risk of cancer in my dog is something that worries me”
- “I actively research on the best way to keep my dog healthy”
- “I will spend whatever it takes to keep my dog healthy”
- “I often buy gifts for my dogs”
- “I tend to spoil my dog”

Additional characteristics of owners with a high propensity to screen for cancer are families where children and dogs share a very close bond (3x more likely to screen), and those with pet insurance. Household income and educational level were not as strongly correlated with willingness to pursue early screening in comparison to the aforementioned characteristics. A majority of dog owners were willing to pursue early cancer screening if recommended by their veterinarian. (Figure 6)

Question: “How likely are you to order [the cancer screening test] if your veterinarian were to recommend it?”

FIGURE 6 N = 2,004



DISCUSSION

Dog owners are generally well-aware of the risk of cancer among their canine companions, and if provided the option for early cancer screening, many are likely to pursue it. In addition, the decision to pursue screening is highly influenced by the recommendation of the veterinarian, the most trusted source of information.

When faced with a cancer diagnosis – either early-stage or late-stage – dog owners are, on average, willing to spend over \$3,000 on treatment, with more owners willing to treat early-stage cancer compared to late-stage cancer.

Interestingly, household income and educational level are not strong predictors of willingness to pursue screening. A high level of engagement – seen in owners who reported pampering their pets and keeping up-to-date with routine veterinary preventive care – is a stronger predictor of screening uptake. Also, when children are in the household, and they share a strong bond with the family dog, owners are more likely to be interested in early cancer screening.

KEY POINTS

- 1 Most dog owners (61-73%) perceive canine cancer as a common problem.
- 2 Most owners see value in early cancer screening, and the majority (50-60%) would pursue some form of intervention following an early cancer diagnosis, including surgery, chemotherapy, and/or radiotherapy.
- 3 Owners are generally willing to treat cancer, with a higher level of willingness in early-stage disease. Among those planning to treat, the average willingness to spend (across early and late stages) was over \$3,000, including approximately 1 in 6 willing to spend over \$5,000.
- 4 Owner willingness to pursue cancer screening in their canine companions correlated more closely with dog pampering, pet humanization, and bonding rather than with household income or educational level.
- 5 The veterinarian is, by far, the most trusted information source (78-87%) regarding preventive health care and cancer screening.