

# The Portuguese Water Dog Health Survey

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# My Students

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# Objectives

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- ❑ To determine the common breed health problems
  - ❑ To create a baseline for future breed health surveys
  - ❑ To help prioritize breed research and education
  
  - ❑ To open discussion of health issues
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# Survey Design

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## Section I:

### General information

- # of years the respondent owned PWD's
- What activities owners were involved in

## Section II:

### Number of PWDs currently living with or who died living with from 1999 to present

- Current age or age at time of death
  - Sex
  - Cause of death if applicable
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# Survey Design

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## Section III:

- Specific categories of health problems
    - List of health problems by system
    - How many of their dogs had a particular disease
    - Sex of that dog
    - Sometimes the age of onset
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# Survey Design

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## □ Section IV:

- Breeding and reproduction
- Number bred
- Males, females and puppy problems

## □ Section V:

- Opinion about top 3 health problems of concern
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# Survey Administration

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- Members of the Portuguese Water Dog Club of America, regional clubs
    - Initial mailing in October 2005
    - Postcard reminders in May 2006
    - Another copy of the health survey in July 2006
  
  - Members of the Portuguese Water Dog Club of Canada (done by Canadians)
    - Initial mailing December 2005
    - Additional copy of the survey July 2006
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# Confidentiality

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- All names on the mailing list were given ID numbers
  - Only ID numbers entered into computer
  - Only my laboratory has lists and responder information
  - No raw data will be released ever
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# Data Analysis

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- Number and % yes for each question
  - Chi-square test for sex ( $> 2\%$  dif)
    - $P \leq 0.05$  was statistically significant
    - indicated a difference frequency of health problems between males and females
  - Graph of response rate
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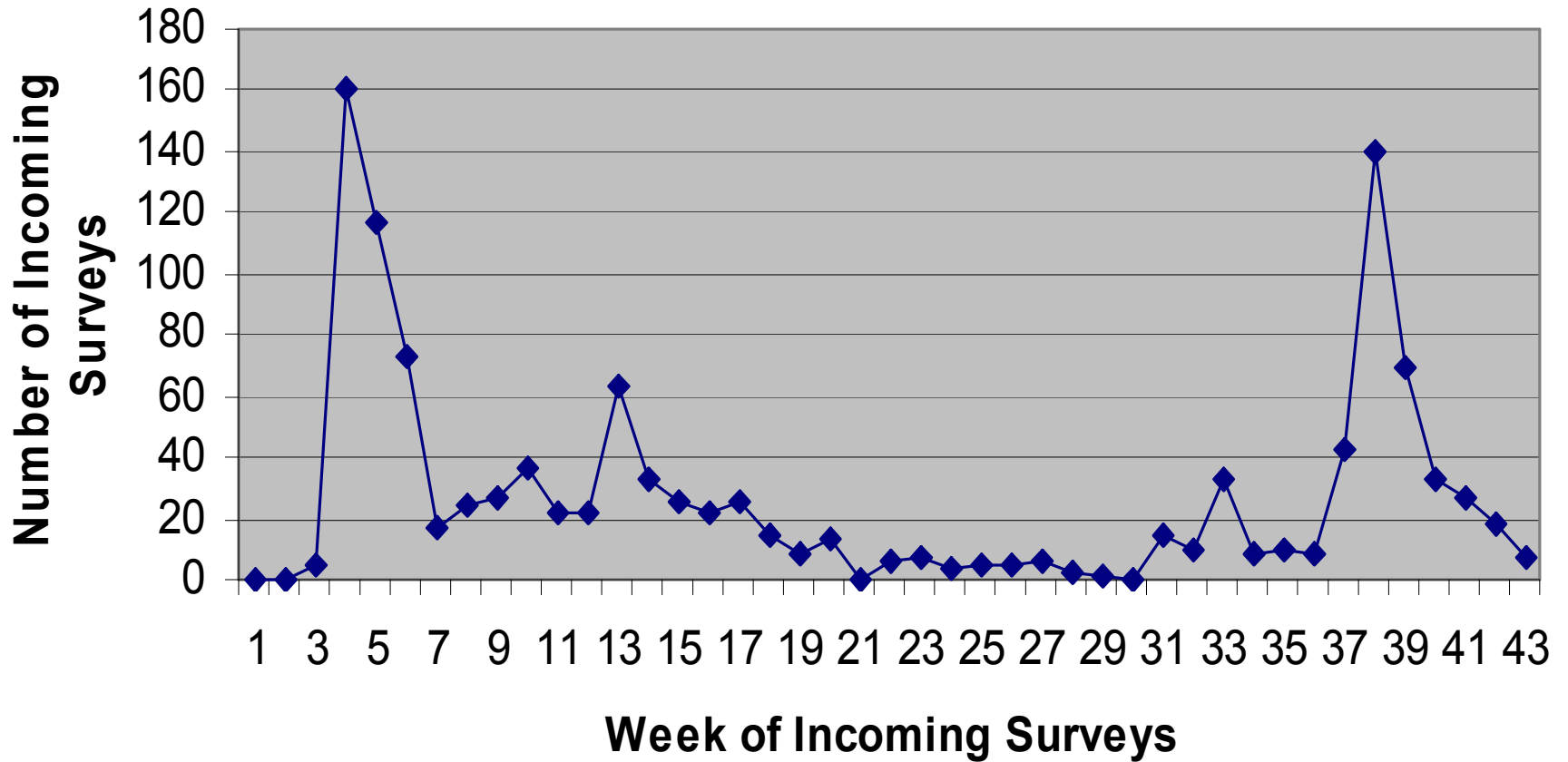
# Response Rate Information

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Original Number of Surveys Mailed	2241
Bad Addresses	22
No Dogs	12
Blank Surveys	2
Unusable	2
Viable Respondent Contacts	2217
<b>Total Number of Owners</b>	<b>1700</b>
<b>Response Rate</b>	<b>77.8%</b>

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# Incoming Surveys Per Week



# Possible Reasons for Non-response

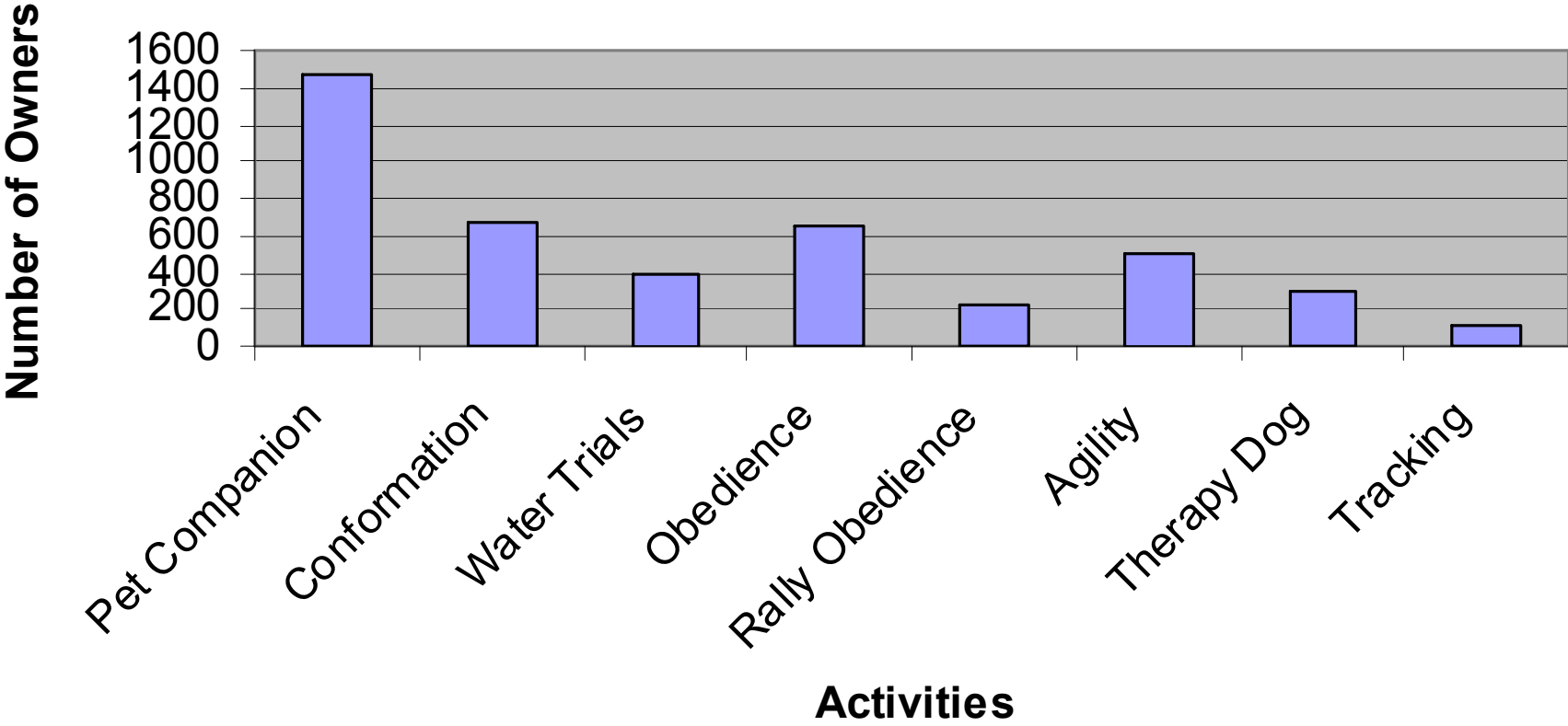
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- Survey too time consuming
  - Too many dogs to include
  - Too many health problems
  - Very few or no health problems
  - Have not recently owned PWDs
  - Some other unknown reason
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# Dogs and Owners in the Survey

Years Owned PWD:		
Median		6
Maximum/ Minimum	35	<1
Number of Living PWD:		
	TOTAL	%
Male	1209	42%
Female	1677	58%
Total # Dogs Included:		
Male	1500	42%
Female	2047	58%
<b>Total</b>	<b>3547</b>	

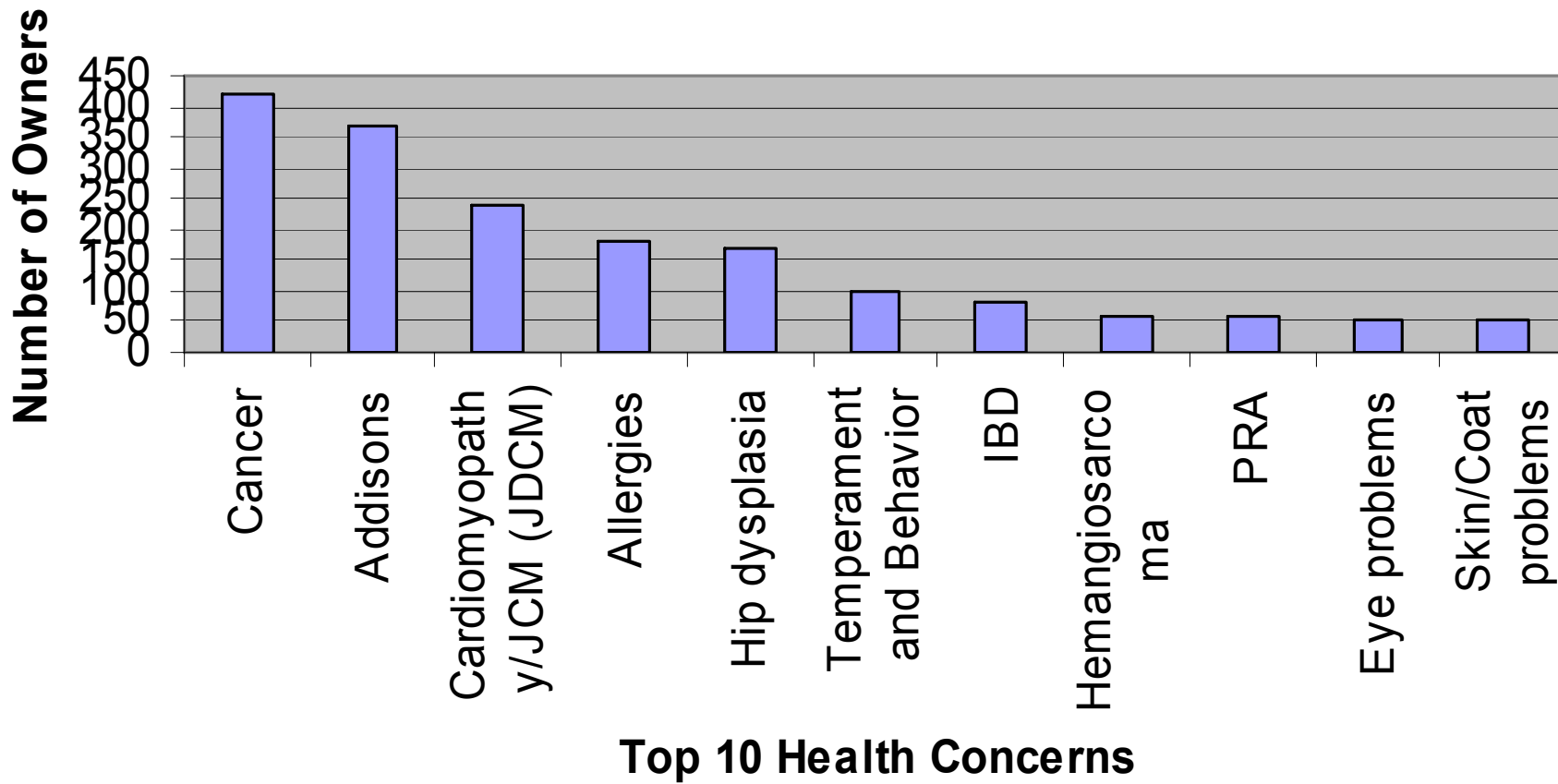
# Portuguese Water Dog Activities



# Dog Age Data

<b>Age of Living Dogs</b>			
		<b>Male</b>	<b>Female</b>
Median		4	4
Maximum		17	16
Minimum		2 mo.	2 mo.
<b>Age at Death</b>			
		<b>Male</b>	<b>Female</b>
Median		10	11
Maximum		16	17
Minimum		2 mo.	< 1 mo.

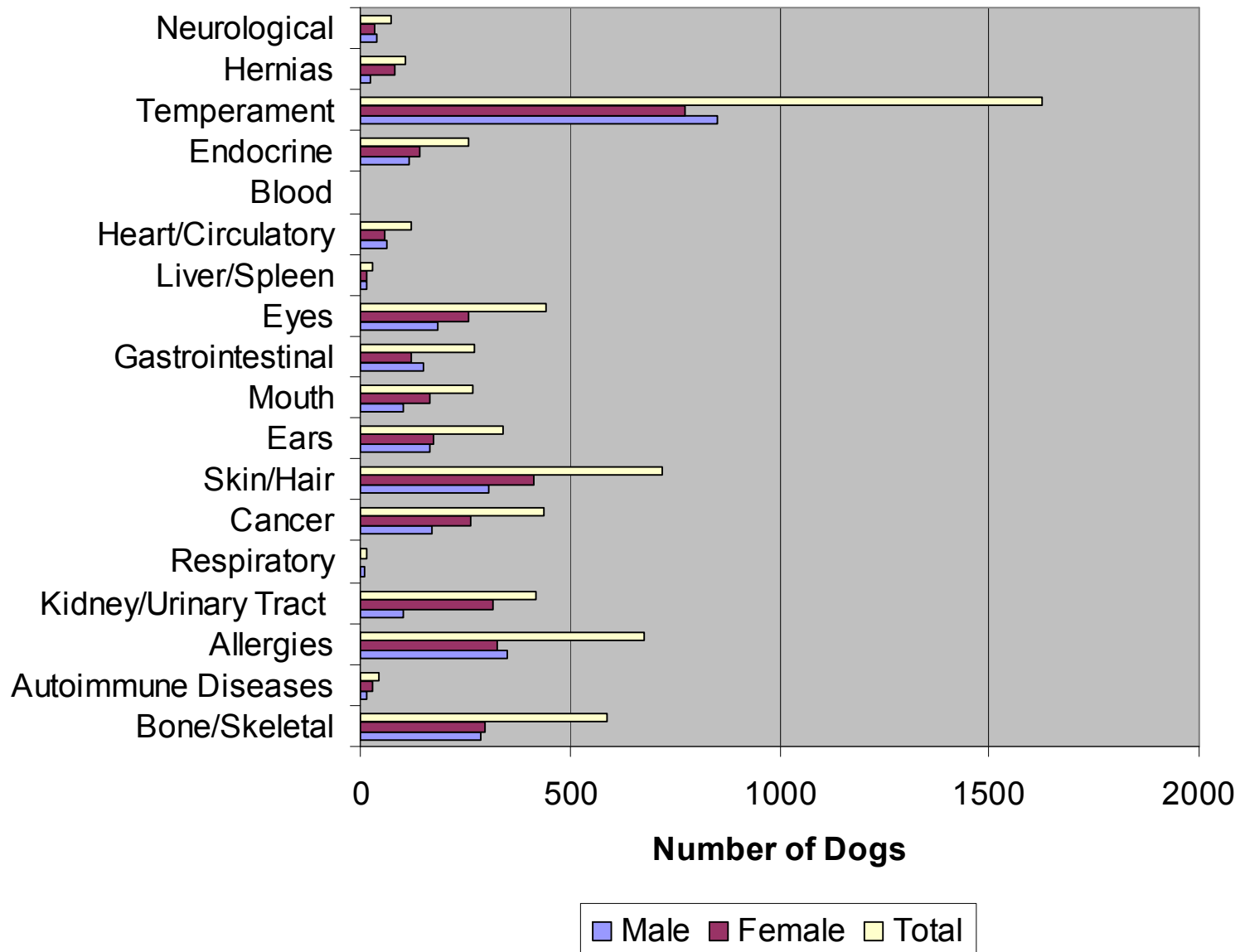
# Owner Health Concerns



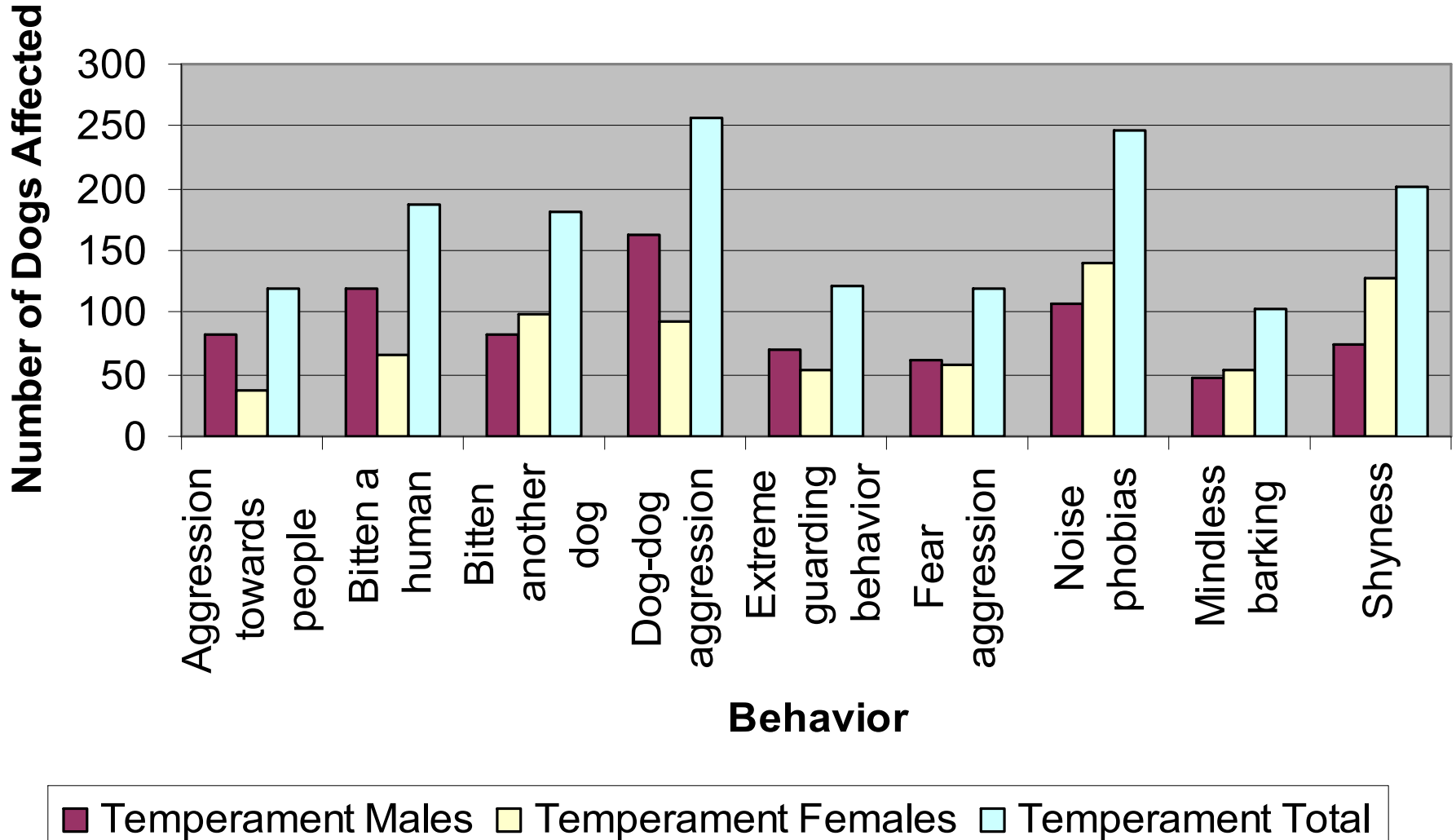
# Most Common Problems at Death

Cancer	313	47%
Old Age	65	9.8%
Heart Problems	34	5.1%
Accidental/Trauma	26	3.9%
Kidney Disease	23	3.5%
Gastrointestinal	20	3.0%
Unknown	18	2.7%
Autoimmune	15	2.3%
Euthanized	13	2.0%
Euthanized for temperament	10	1.5%

# Health Problems



# Temperament/Behavior Problems



# Top 10 Non-Behavior Health Problems

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<input type="checkbox"/> Sebaceous cysts	10%
<input type="checkbox"/> Hip dysplasia	6.9%
<input type="checkbox"/> Arthritis	6.5%
<input type="checkbox"/> Dietary allergies	6.2%
<input type="checkbox"/> Cataracts	5.9%

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# Top 10 Non-Behavior Health Problems

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<input type="checkbox"/> Chronic ear infections	5.4%
<input type="checkbox"/> Contact dermatitis	4.9%
<input type="checkbox"/> Recurring urinary infections	4.7%
<input type="checkbox"/> Hypothyroidism	4.3%
<input type="checkbox"/> Lipomas	3.9%

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# Skin/Hair

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	Male	%	Female	%	Total	%
Sebaceous Cysts	151	10%	213	10%	364	10%
Fatty Tumors	59	4%	79	4%	138	4%
Warts	37	3%	43	2%	80	2%
Hair Loss	22	2%	32	2%	54	2%

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# Allergies

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	Male	%	Female	%	Total	%
Dietary	116	8%	103	5%	219	6%
Contact Dermatitis	94	6%	78	4%	172	5%
Inhalant	58	4%	62	3%	120	3%
Flea	53	4%	51	3%	104	3%

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# Skeletal

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	Male	%	Female	%	Total	%
Hip Dysplasia	120	8%	123	6%	243	7%
Arthritis	107	7%	122	6%	229	7%
Transitional Vertebrae	13	1%	21	1%	34	1%
Spondylosis	8	0.5%	9	0.4%	17	0.5%
Elbow Dyspl.	3	0.2%	7	0.3%	10	0.3%
Panosteitis	5	0.3%	4	0.2%	9	0.3%

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# Eyes

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	Median Age	Male	%	Female	%	Total	%
Cataracts	10	83	6%	126	6%	209	6%
Persistent Pupillary Membrane	-	25	2%	31	2%	56	2%
Distichiasis	-	17	1%	24	1%	41	1%
Dry Eye	-	18	1%	25	1%	43	1%
PRA	-	18	1%	21	1%	39	1%

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# Selected Cancers

	Male	%	Female	%	Total	%
Hemangio	53	4%	58	3%	111	3%
Lympho	27	2%	31	2%	58	2%
Mammary	0	0%	51	3%	51	1%
Mast Cell	14	1%	25	1%	39	1%
Brain/CNS	9	0.6%	11	0.5%	20	0.6%
Lung	5	0.3%	10	0.5%	15	0.4%
Melanoma	6	0.4%	8	0.4%	14	0.4%
Osteo	4	0.3%	6	0.3%	10	0.3%

# Ages of Selected Cancers

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- Hemangiosarcoma
    - 4-15, median 10 years (12 missing ages)
  - Lymphosarcoma
    - 2-13, median 8 years (7 missing)
  - Lung cancer
    - 10-14, median 11.5 years (3 missing)
  - Osteosarcoma
    - 2-13, median 8 years
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# Activity Level

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- Very Active 39% of owners
  - Moderately Active 55%
  - Calm or sedate 6%
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- 78% of owners believed 1-3 hours of exercise per day was optimal
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# Household Vaccination Practices

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- 72% vaccinate annually
  - 25% use titers to determine vaccination
  - 17% of households give 1<sup>st</sup> puppy vaccines at less than 6 weeks
  - 46% at 6-8 weeks
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# Number of PWD's Bred in the Last 5 Years

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Males	234	16%
Females	583	28%
Total	817	23%
Number of Litters	1108	

# Top Female Reproductive Problems

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Failure to Conceive	65	11%
Unplanned C-section	62	11%
Difficulty Whelping	50	8.6%
Abortion/Resorption	44	7.6%
Irregular Heat Cycles	43	7.4%
Mastitis	32	5.5%
Pyometra	24	4.1%

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# Top Male Reproductive Problems

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Prostatic Disease	15	6.4%
Subfertile/Infertile	11	4.7%
Abnormal Semen	9	3.9%
Lack of Libido	4	1.7%

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# Common Puppy Problems

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	<b>#Litters</b>	<b>#Pups</b>	<b>% of Total Litters</b>
Fading Puppy	108	166	10%
Undescended Testicles	114	139	10%
Unthrifty, Small	34	52	3%
Cleft Palate	25	36.5	2%
Heart Murmur	17	16	1.5%

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# Strengths and Limitations

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- Very good response rate so only 22% non-responders
    - Low non-response makes it unlikely for non-responders to have strong influence on results
    - Kept survey short and simple
      - Helped a lot with response rate
    - Did multiple reminders/mailings
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# Strengths and Limitations

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- Based on owner recall
    - Difficulty in remembering
    - Unwillingness to admit to problems
    - But if require veterinary confirmation or records, drop in response rate
    - Short time period helps improve recall
      - Death of a dog is a big event
      - Dogs currently in household prompt memory
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# Owner Health Concerns

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- Open ended list of top 3
  - A function of:
    - Frequency of problem
    - Perceived seriousness of problem
    - Personal experience
    - Medical/health background
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# Temperament/Behavior

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- Some problems could interpretation
    - Shyness, overactive, barking, etc.
  - Noise phobias nuisance usually
  - Aggression to dogs, people and biting are concerns
    - Aggression toward dogs and biting humans more common in males
    - No data on the circumstances
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# Where To Now?

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- Talk about the results
  - Provide educational information about important health problems
    - Based on results
    - Based on owner concern health list
  - Think about which problems maybe genetic
    - E.g. some infections likely not genetic
  - Focus research funding
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