

Heartworm in Dogs in Canada in 1982

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In late December 1982, 2 738 questionnaires were sent to federal, provincial, industrial and institutional veterinarians and small and mixed animal practitioners throughout Canada to assess heartworm disease (HWD), primarily in dogs, in 1982 as was done previously (1,2,3,4,5,6). The number returned was 704 (25% response). A few additional questionnaires were returned because of inappropriate addresses. The findings are presented in two figures and three tables and a few brief comments about these should be made.

1. The percentage response for 1982 was similar to that for 1981 (24% response), and of those responding 81% indicated an interest in information on HWD and 90% stated that they would complete a questionnaire if offered again.
2. In 1982, 4 840 more dogs were checked for microfilariae than in 1981. When the number of dogs tested in 1982 was compared with 1981, there was a noticeable increase in testing in Ontario, Quebec and Alberta, a definite decrease in Saskatchewan, Nova Scotia and Newfoundland and no change in the other provinces. We have made comments previously that the smear procedure is a very inefficient procedure for recovering microfilariae. In 1982, 76 practices (10.8%) reported that they used the smear as the only procedure and 38 of these were in Ontario. We would encourage all those practices to incorporate a concentration technique.
3. In 1982, 538 dogs (1.49% of dogs tested) were found with HWD compared with 560 (1.79%) in 1981. Heartworm disease was diagnosed in all provinces except Alberta, New Brunswick, Prince

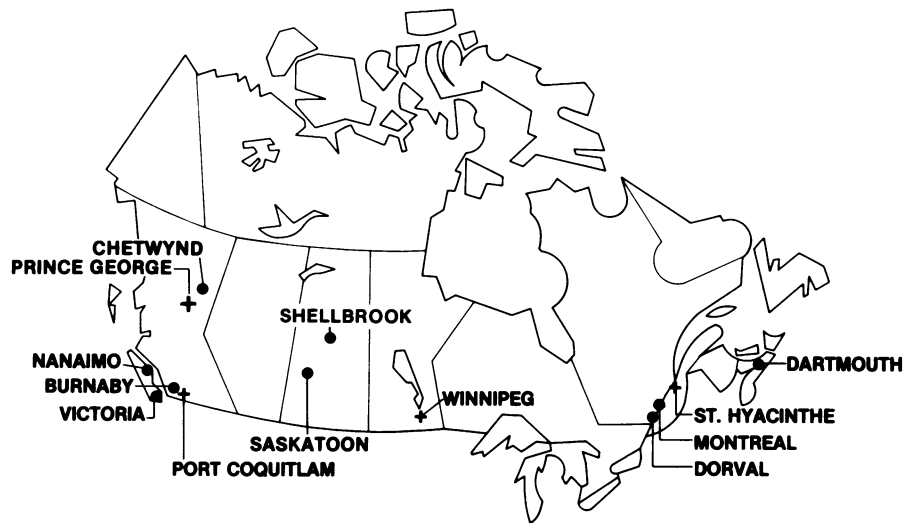


FIGURE 1. Areas in Canada with diagnoses of heartworm disease in dogs in 1982.

- Areas with dogs which had been outside of Canada and presumed infected before returning or with dogs whose movements were unknown.
- + Areas with dogs some of which had never left Canada.

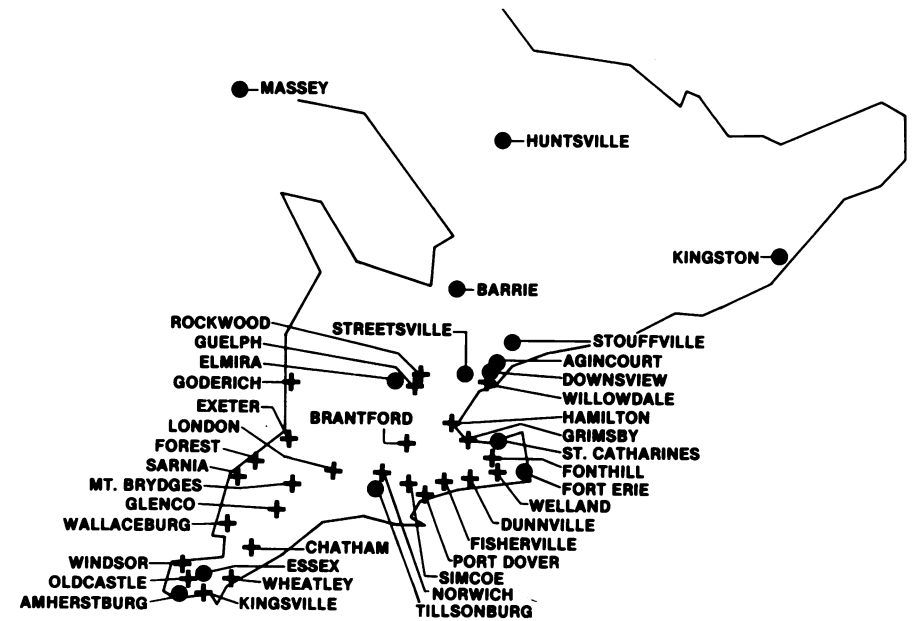


FIGURE 2. Areas in Ontario with diagnoses of heartworm disease in dogs in 1982.

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- + Areas with dogs some of which had never left Ontario.

Edward Island and Newfoundland, but as seen previously most of the cases were in Ontario. Heartworm disease was found most frequently in companion dogs over three years of age maintained mainly outdoors in rural areas. Clinical signs of HWD were observed in 33% of the cases.

4. In 1982, approximately 43% of the dogs with HWD had never left Canada, and this was remarkably different to previous years with reports of 60% or more. It would appear that for 1982 more caution was being exercised in identifying the movement of dogs since about 51% of the dogs with HWD were reported with movements unknown (in previous years about 20 to 25% of the cases were in this category). Southwestern Ontario continued to be the focus of the infection in Canada. The number of cases reported for Manitoba continued to decline. One case of HWD in Port Coquitlam, British Columbia and one in Saint-Hyacinthe, Quebec were each reported not to have left those provinces previously. One case in Prince George, British Columbia was reported to have been in another province six months or more prior to diagnosis. There was also a report from Saint-Hyacinthe of one case of HWD in a cat which had never left the province.

In Ontario, the number of dogs with HWD in 1982 was similar to that in 1981 — 521 and 528 respectively. In the Windsor peninsula area and including Chatham the number of dogs with HWD in 1982 was larger than in 1981 (303 and 216 respectively). There was increased testing in the area in 1982 and the prevalence of HWD was 3.3% (2.7% in 1981). The prevalence for Forest, Sarnia, Petrolia and Wallaceburg in 1982 was similar to 1981 (1.2%). Along Lake Erie and including Aylmer, Dunnville, Fonthill, Fort Erie, Fisherville, Hagersville, Niagara Falls, Port Colborne, Port Dover, Ridgetown, Simcoe, St. Thomas, Tillsonburg, Welland and Windham there was also an increase in the number of dogs tested in 1982. The number of HWD cases in these areas was

TABLE I
RESULTS OF A QUESTIONNAIRE WHICH WAS SENT TO 2 738 VETERINARIANS IN CANADA
IN DECEMBER 1982 AND COMPUTED FROM 704 REPLIES

HEARTWORM IN CANADA 1982																							
Name:	_____																						
Address:	_____																						
1. Does your professional activity include examination of dogs and cats?	YES	574	NO	130																			
If YES go to Question 2. If NO go to Question 21.																							
2. Which category would fit your activity best?																							
Mixed practice	225	Small animal practice	315																				
Research Laboratory	10	Diagnostic Laboratory	16																				
Other	8																						
3. What technique(s) do you use for diagnosis of HWD?																							
Clinical Signs	53	Radiography	27	Blood Test	84	Necropsy	23																
4. If blood test, specify technique(s) used routinely.																							
Knotts	29	Filter	50	Smear	21	Microcapillary	10																
Submitted to a Diagnostic Lab	27																						
5. What time of year do you test (blood) most dogs for HWD?																							
Spring	46	Summer	34	Fall	22	Winter	9																
6. Did you diagnose HWD in 1981? (note year)									YES	77													
7. No. of dogs blood tested in 1982. (note year)										36 163													
8. No. of dogs diagnosed with HWD in 1982.										538													
If none go to Question 17.																							
9. If HWD was diagnosed in 1981 are the no. of cases for 1982 an:																							
Increase	5.1%	Decrease	2.1%	Similar	3.1%																		
10. No. of dogs in 1982 diagnosed with HWD and with clinical signs of HWD.										178													
11. Circle month(s) you diagnosed most heartworm cases in 1982:																							
Jan	2	Feb	2	Mar	6	Apr	14	May	18	June	22	July	16	Aug	13	Sept	1	Oct	3	Nov	3	Dec	0
12. How many cases had the following histories in 1982?																							
Six months or more prior to diagnosis was outside of Canada									28	(5.2%)													
Six months or more prior to diagnosis was in another Province									6	(1.1%)													
Never left the Province									229	(42.8%)													
Movement Unknown									275	(50.9%)													
13. Use numbers 1,2,3 and give frequency (most frequent = 1) for the domicile of dogs with HWD in 1982.																							
City	2	Suburban	3	Rural	1																		
14. Use numbers 1,2,3,4 and give frequency (most frequent = 1) for the ages of dogs with HWD in 1982.																							
Less than 1 year	4	1-3 years	2	Greater than 3 years	1	Age unknown	3																
15. Use numbers 1,2 and give frequency (most frequent = 1) for the following classification of dogs with HWD in 1982.																							
Primarily indoors	2	Primarily outdoors	1																				
16. Use numbers 1,2,3,4 and give frequency (most frequent = 1) for the following classification of dogs with HWD in 1982.																							
Companion dog	1	Show dog	4	Hunting dog	3	Farm dog	2																
17. Do you recommend a preventive program for your area?									YES	134 (23%)	NO												
18. No. of cases diagnosed with <i>Dipetalonema reconditum</i> in 1982?										92													
19. No. of cases of <i>D. immitis</i> in cats diagnosed in 1982?										37													
20. No. of cases of <i>D. immitis</i> in other animals.										0													
21. Would you be interested in the results of this questionnaire?									YES	92	NO	5											
22. Would you be interested in information on HWD?									YES	81	NO	13											
23. Would news releases on HWD be helpful to the public?									YES	74	NO	14											
24. Did you respond to the 1981 Heartworm questionnaire?									YES	73	NO	18											
25. Did you see the results of the 1981 questionnaire?									YES	61	NO	30											
26. Would you respond to the questionnaire if it was offered again?									YES	90	NO	4											
27. Any other comments: 154 respondents requested information or made comments.																							

154 in 1982 (193 in 1981) with a prevalence of 4% in 1982 (7.8% in 1981). As in 1981 most of the dogs with HWD in this area were diagnosed in Simcoe and Tillsonburg.

5. The unusually large number of cases of *Dipetalonema reconditum* identified here is due to two practices, one in Alberta reporting ten cases and one in Quebec reporting 50 cases. Similarly, the number of cases of HWD in cats is due to one practice in Alberta reporting 32 cases.
6. It would appear that continued surveillance for HWD is needed. We encourage as much blood testing as the traffic will bear. This is especially important in Ontario south of a line drawn from Toronto to Grand Bend. We encourage blood testing of dogs once a year in the spring before the onset of the mosquito season. We encourage the use of preventive medication for the Forest-Sarnia-Chatham-Windsor area, along the Lake Erie shoreline and north of that shoreline in the triangular area bounded by Brantford, Niagara Falls and St. Thomas and for all dogs entering those areas from June through September.
7. Your comments and advice were appreciated.
8. We acknowledge the support of the Canadian Veterinary Research Trust Fund in making this study possible. Unfortunately, we were not successful in having this support renewed for another year, and it is likely, therefore, that this will be the last HWD survey.

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TABLE II
AREAS IN CANADA WITH TWO OR MORE CASES OF HEARTWORM DISEASE IN DOGS IN 1982

Area	Number of Cases	
	Had Been Outside Canada or Movement Unknown	Never Left Canada
Chetwynd, British Columbia	2	0
Prince George, British Columbia	1	1
Winnipeg, Manitoba	1	1
Amherstburgh, Ontario	6	0
Brantford, Ontario	0	7
Dunnville, Ontario	0	7
Essex, Ontario	90	0
Forest, Ontario	1	1
Glencoe, Ontario	1	1
Guelph, Ontario	5	3
Hamilton, Ontario	1	1
Kingsville, Ontario	0	6
London, Ontario	2	3
Mt. Brydges, Ontario	0	3
Oakville, Ontario	3	8
Oldecastle, Ontario	2	22
Port Dover, Ontario	0	5
Rockwood, Ontario	1	1
Sarnia, Ontario	1	12
Simcoe, Ontario	8	65
Tillsonburg, Ontario	60	0
Wallaceburg, Ontario	0	4
Welland, Ontario	0	6
Wheatley, Ontario	32	0
Windsor, Ontario	71	73
Dorval, Quebec	2	0

TABLE III
NUMBER OF PRACTITIONERS REPORTING THAT THEY HAD BLOOD-TESTED (BT) DOGS AND THE NUMBER OF DOGS WITH HEARTWORM DISEASE (HWD) IN 1982 IN THE PROVINCES

	No. of Practitioners	No. of Dogs	
		BT	HWD
British Columbia	61	248	8
Alberta	43	223	0
Saskatchewan	21	121	2
Manitoba	27	1 201	2
Ontario	278	32 185	521
Quebec	24	1 918	4
Nova Scotia	17	137	1
New Brunswick	9	86	0
Prince Edward Island	4	41	0
Newfoundland	3	3	0
Total	487	36 163	538

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