



Survey Research Laboratory

A Unit of the College of Urban Planning and Public Affairs



VETERINARY PATHOLOGIST EMPLOYER DEMOGRAPHIC SURVEY: FINAL REPORT

Prepared for the American College of Veterinary Pathologists,
the Society of Toxicologic Pathology, and
the American Society for Veterinary Clinical Pathology

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■ INTRODUCTION ■

The Recruitment Committee of the American College of Veterinary Pathologists (ACVP) contracted with the Survey Research Laboratory (SRL) at the University of Illinois at Chicago to survey employers and trainers of veterinary pathologists. The purpose of this Web/mail study was to determine whether the supply of veterinary pathologists will be sufficient to cover market needs, taking into consideration the findings of a similar survey conducted in 2002. The current study was funded by the ACVP, the Society of Toxicologic Pathology, and the American Society for Veterinary Clinical Pathology.

The following pages summarize the responses of the 141 respondents to the employer survey. Since the questionnaire for this survey contained two sections – one asking about anatomic pathology employees and one asking about clinical pathology employees – results are presented separately for these two groups. Further, the foregoing contains a number of graphs. The data on which these graphs are based are included in tabular form in Appendix A.

Appendix B contains a detailed discussion of the study methodology and response rates. Copies of all survey materials (introductory letter, e-mail invitation, mail and Web questionnaires, reminder/thank you postcard, and e-mail reminder) are included in Appendix C.

■ RESULTS ■

For the employer survey, 141 organizations returned questionnaires from a total of 248 eligible institutions for an overall response rate of 56.9%. The anatomic pathologist section was completed by 122 respondents; of those, 47 also completed the clinical pathologist section. Three organizations completed the clinical pathologist section only, meaning that overall, 50 respondents provided information on clinical pathologists.¹

Current employment of and current demand for veterinary pathologists

Current employment. Two items near the beginning of the questionnaire – before the separate anatomic and clinical pathology sections – asked respondents to supply the number of veterinary pathologists they currently employ. The bulleted items below summarize the responses.

Anatomic Pathologists

- Of the 138 institutions that provided information on the number of anatomic pathologists employed, almost all (133, or 96.4%) employ anatomic pathologists.
- Those 133 organizations collectively employ 850 anatomic pathologists, with each employing an average of 6.4 anatomic pathologists.
- The number of anatomic pathologists ranges from 0 to 70, with just over half the respondents employing one to four anatomic pathologists and 85.5% employing one to ten.

Clinical Pathologists

- Of the 114 institutions that provided information on the number of clinical pathologists employed, 54 (47.4%) currently employ **no** clinical pathologists.
- The remaining 60 organizations collectively employ 191 clinical pathologists, with each employing an average of 3.2 clinical pathologists.
- The number of clinical pathologists ranges from 0 to 27, with 14.9% of respondents employing only one clinical pathologist and 11.4% employing two.

Current demand. Respondents were asked how many veterinary pathologist positions are open currently at their institutions. The results are summarized below.

Anatomic Pathologists

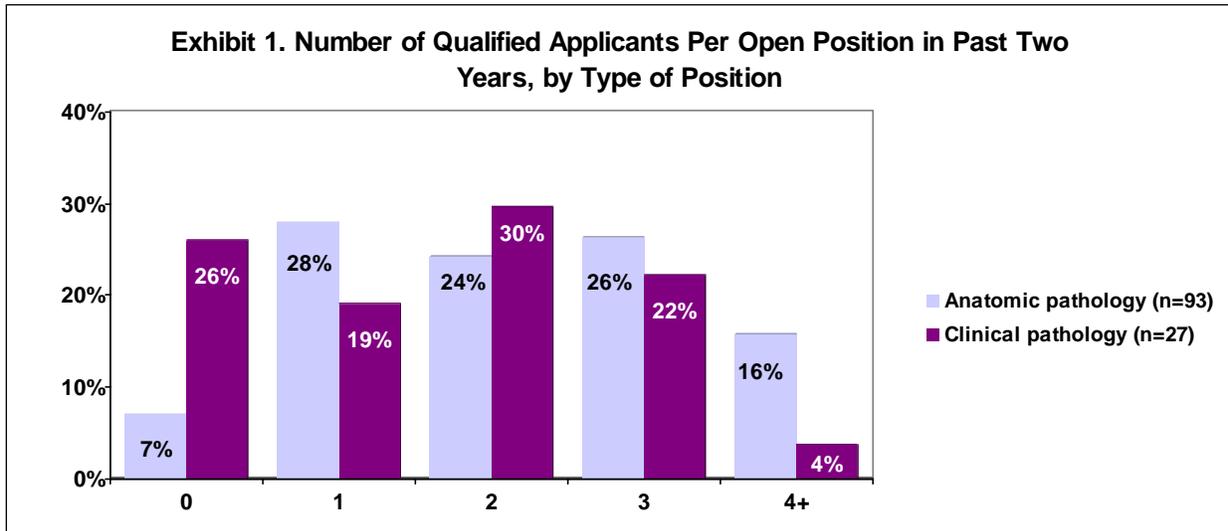
- Of the 122 respondents to this question, 55 (45.1%) reported there are no anatomic pathologist positions currently open.
- The remaining 67 reported a total of 116 open anatomic pathologist positions, with each organization having an average of 1.73 open positions.
- The number of open positions ranged from one to eight, with 56.7% of organizations with open positions having only one such position.

Clinical Pathologists

- Of the 50 respondents to the question about clinical pathologist positions, 35 (70.0%) had no open positions.
- The remaining 15 institutions reported a total of 26 open clinical pathologist positions, with an average of 1.73 open positions.²
- The number of open clinical pathologist positions ranged from one to four, with 60% of those with open positions having only one such position.

¹ The totals for individual items may differ due to “don’t know” and missing responses.

² These numbers are approximate because some respondents answered the question with ranges (e.g., 1-2, 3-4).

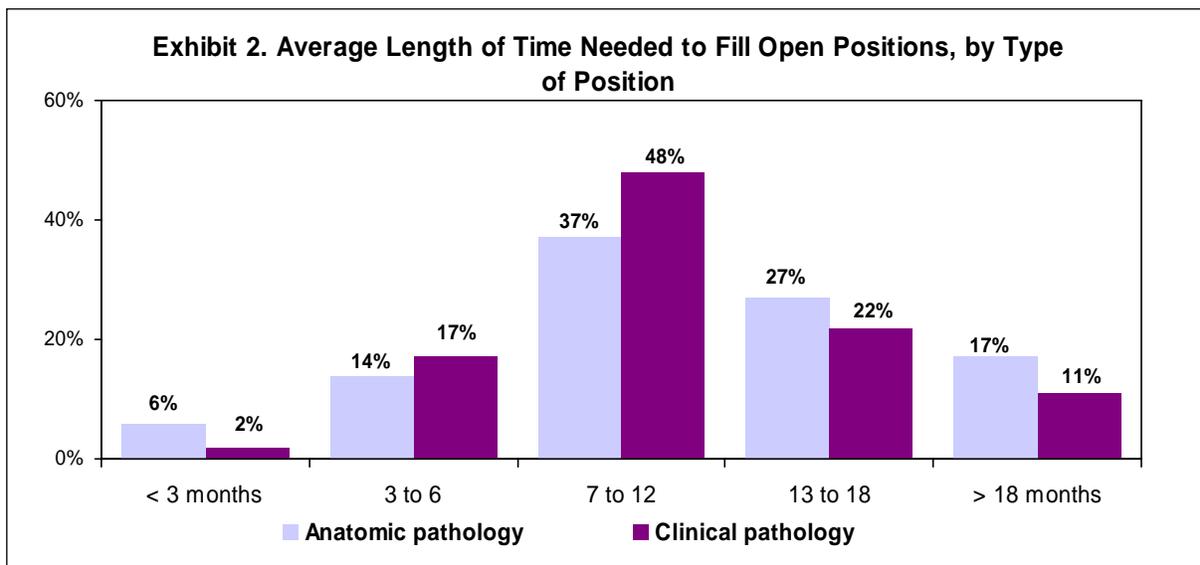


Recent demand for veterinary pathologists

Open positions in the past two years. Nearly 80% (95 of 121) of respondents to the question regarding open anatomic pathology positions indicated they had open positions in the last two years. A smaller proportion of respondents to the clinical pathology question reported having one or more open clinical pathology positions in the preceding two years (54.9%, or 28 of 51).

Number of qualified applicants per open position in the past two years. Institutions that had open positions in the past two years were asked to estimate the number of qualified applicants for each open position; their responses are displayed in Exhibit 1. A small percentage said there were no qualified candidates for anatomic pathologist positions, while over one-quarter said there were no qualified clinical pathologist candidates. With respect to anatomic pathologist openings, nearly equal percentages of responding institutions said they had one, two, or three candidates. For clinical pathologist openings, the highest percentage of respondents said they had two candidates.

Average time needed to fill open positions. As can be seen in Exhibit 2, 80.3% and 80.4% of respondents reported that it takes more than six months to fill an open anatomic or clinical



pathology position, respectively. When asked how quickly they would *like* to fill an open anatomic pathology position, close to half (48.3%) said within three months, followed by six or more months (35.8%), and three to six months (15.8%). Responses differed for clinical pathology positions, with over half (57.1%) of respondents preferring two to six months.

Future demand for veterinary pathologists

Two items on the questionnaire asked respondents to estimate the number of veterinary pathologists they would be hiring during two different periods: 2008–2009 and 2010–2013. Additional items allowed respondents to indicate how many of those openings would be due to retirements.³ Exhibit 3 displays the number of responses to each item, the percentage of respondents who indicated they would have any pathology openings during the years asked about (and the percentage indicating that any would be due to retirements), and the average number of openings during those years (and the average number due to retirements) by type of position. As indicated in the table, respondents to both the anatomic and clinical pathology portions of the questionnaire were more likely to anticipate having any openings in 2008–2009 than in the 2010–2013 period. However, anatomic pathology respondents anticipated a very slightly larger number of openings in 2010–2013, while the opposite was true for clinical pathology respondents. Note that the columns titled “Total # of positions” and “Total # of retirements” are sums of the numbers provided by respondents for each year and each type of position; these numbers are meant to be instructive only. Naturally, they fluctuate quite a bit as the number of respondents decreases and should be viewed

Exhibit 3. Anticipated Total Number[#] of Pathology Job Openings and the Subset Due to Retirements, by Type of Position

Openings in...	Anatomic Pathology				Clinical Pathology			
	<i>n</i>	% with any open positions	Avg # of open positions*	Total # of positions	<i>n</i>	% with any open positions	Avg # of open positions**	Total # of positions
2008–2009	117	69.3%	1.6	131	50	38.0%	1.8	34
2010–2013	113	77.9	1.8	161	47	68.1	1.4	44
Weighted for nonresponse								
2008–2009	119	57.1	1.9	128	46	28.3	1.9	24
2010–2013	114	78.1	1.8	159	44	52.3	1.5	34
Openings due to retirements in...	<i>n</i>	% with any due to retirements	Avg # due to retirements [†]	Total # of retirement	<i>n</i>	% with any due to retirements	Avg # due to retirements ^{††}	Total # of retirement
2008–2009	108	29.6%	1.5	47	40	15.0%	1.0	6
2010–2013	115	52.2	1.8	107	43	44.2	1.2	22
Weighted for nonresponse								
2008–2009	111	23.4	1.4	37	39	10.3	1.0	4
2010–2013	117	41.2	1.8	86	41	31.7	1.2	16

[#]Numbers in table are not exact because some respondents answered in ranges (e.g., 1–2 openings).

*Of those reporting **any** open positions. Ranged from 1–16 for 2008–2009 and from 1–8 for 2010–2013.

Of those reporting **any open positions. Ranged from 1–4 for 2008–9 and from 1–5 for 2010–2013.

[†]Of those reporting **any** retirements. Ranged from 1–3 for 2008–2009 and from 1–3 for 2010–2013.

^{††} Of those reporting **any** retirements. All reported one for 2008–2009. Ranged from 1–2 for 2010–2013.

³ Of all the items on the employer questionnaire, this series about openings and openings due to retirements seemed most problematic for respondents, as evidenced by the number who left some or all of them blank. For the anatomic pathology portion of the instrument, as many as 24% of the responses had to be coded as “missing/refused.” For the clinical pathology portion, the percentage reached as high as 65.1%. It could be that those with zero expected open positions chose to skip these items, but we do not know for certain. Therefore, the results for these items must be interpreted cautiously.

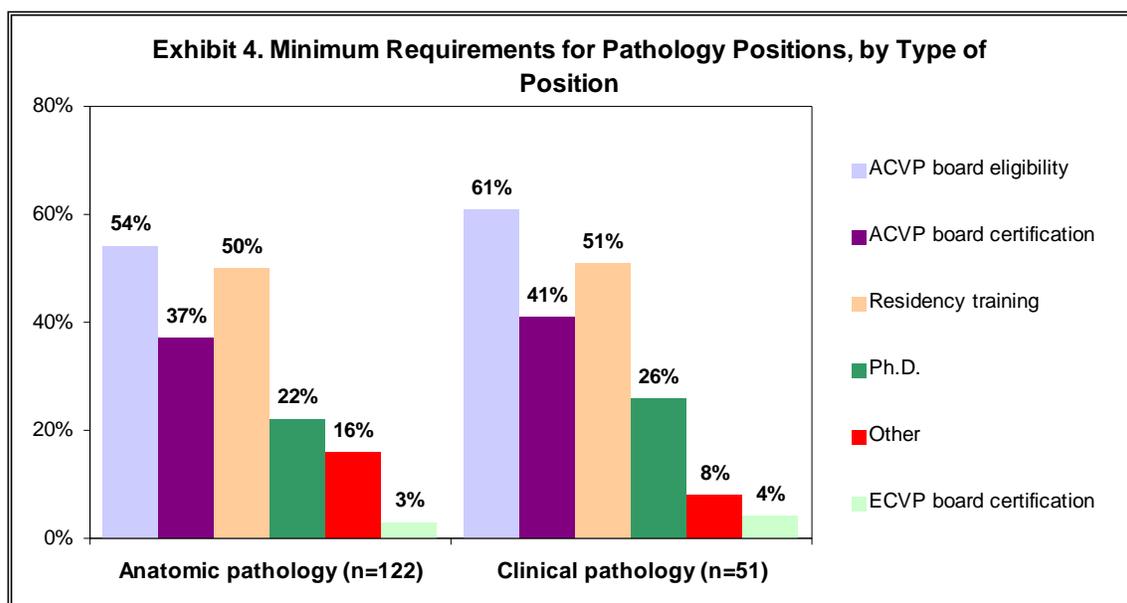
as indicators only. Readers also should keep in mind that, due to nonresponse, these numbers are low compared to the actual number of positions. Thus, the estimates were weighted to adjust for nonresponse. Given the response rate varied by institution size (i.e., the total number of pathologists employed), the nonresponse weights were calculated separately for each of four different categories of institution size—0, 1-5, 6-10, 11 or more. Details about the nonresponse weights are given in Exhibit B-4, Appendix B.

Openings due to retirements. For the 2008–2009 period, 117 responding organizations expected 131 openings for anatomic pathologists. When asked how many of those will be due to retirement, 108 organizations said they will have 47 openings in 2008–2009. One hundred and thirteen respondents anticipate a total of 161 openings in 2010–2013, and 115 respondents expect 107 openings due to retirement during that period.

The same pattern holds for clinical pathologists, only the numbers are smaller. Fifty institutions expect 34 openings in 2008–2009, with 40 institutions expecting six openings due to retirement. In 2010–2013, 47 respondents expect 44 openings, with 43 respondents anticipating 22 openings due to retirement.

Institutional requirements for veterinary pathologist positions

Minimum requirements. Respondents were asked to indicate their institutions’ minimum requirements for veterinary pathologist positions. As can be seen in Exhibit 4, a slight majority (54.1%) of responding institutions require ACVP board eligibility for anatomic pathology positions; a slightly lower percentage (50.0%) requires residency training. The next most-cited requirement was ACVP board certification, followed by a Ph.D. and “other” skills. Only 3.3% cited ECVP board certification. Responses were similar regarding clinical pathology positions, with 60.8% citing ACVP board eligibility, 51.0% residency, 41.2% ACVP board certification, 25.5% a Ph.D., and 3.9% ECVP board certification. The low proportion of institutions requiring ECVP board certification is not surprising, given that the sample contained U.S. and Canadian institutions only.



Respondents named training in specific areas (e.g., toxicologic pathology), specific degrees (e.g., M.S. in Pathology, MVSc), and specific types or lengths of experience (e.g., zoo pathology, two years of lab experience, ten years of industry experience) as additional requirements.

Importance of ACVP certification. About three-quarters of responding institutions would hire an anatomic pathologist who is not ACVP certified, but the majority of those (85.4%) would require that pathologist to become certified at some point after being hired. Similarly, 64.0% of respondents would hire a non-ACVP-certified *clinical* pathologist, and about 91% of those would expect the new employee to become certified. These results are presented in Exhibit 5.

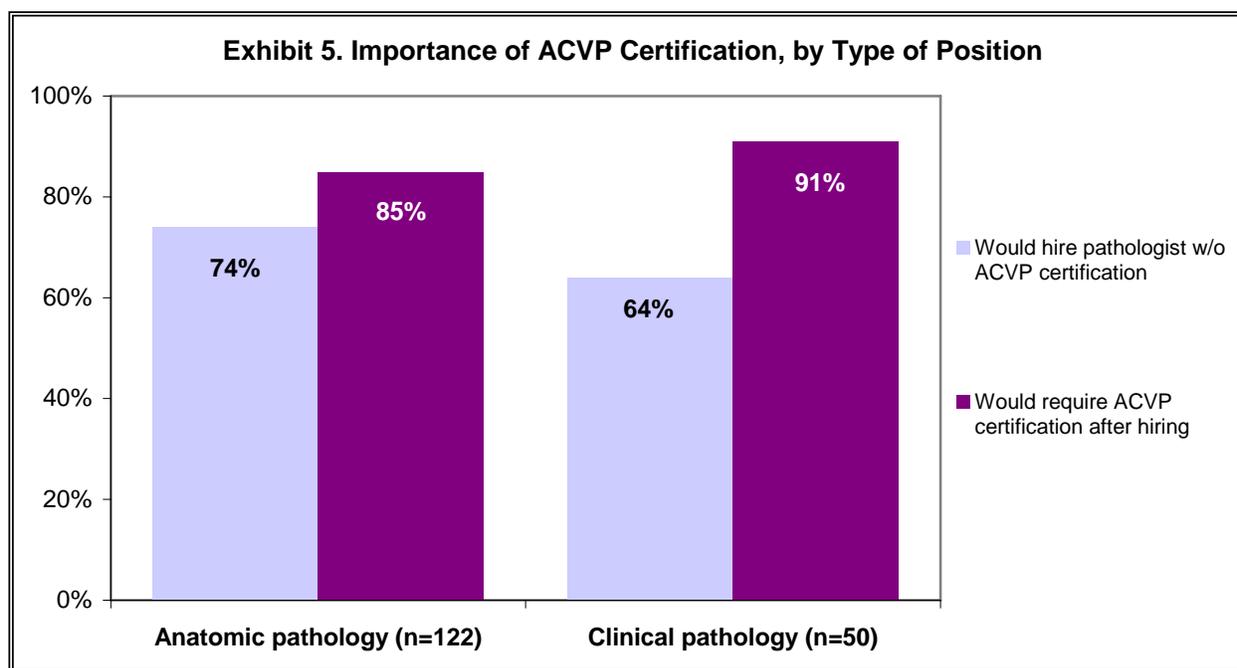
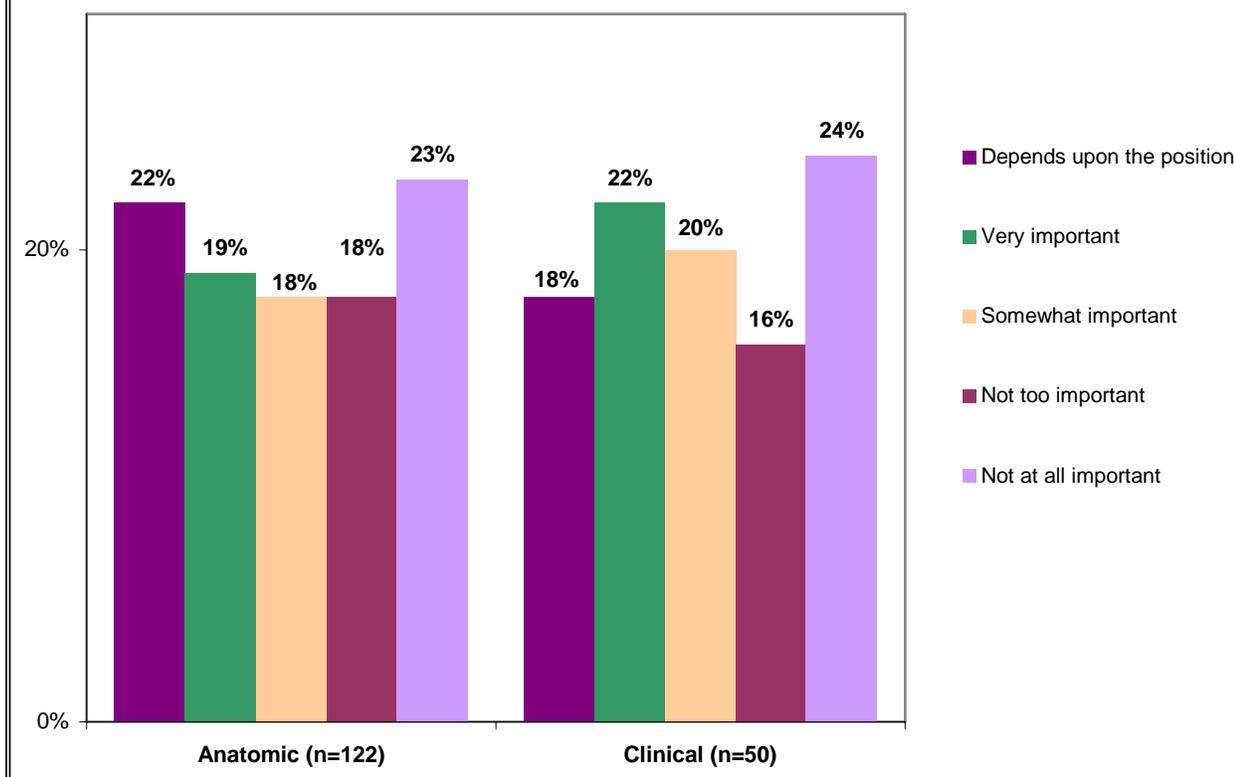


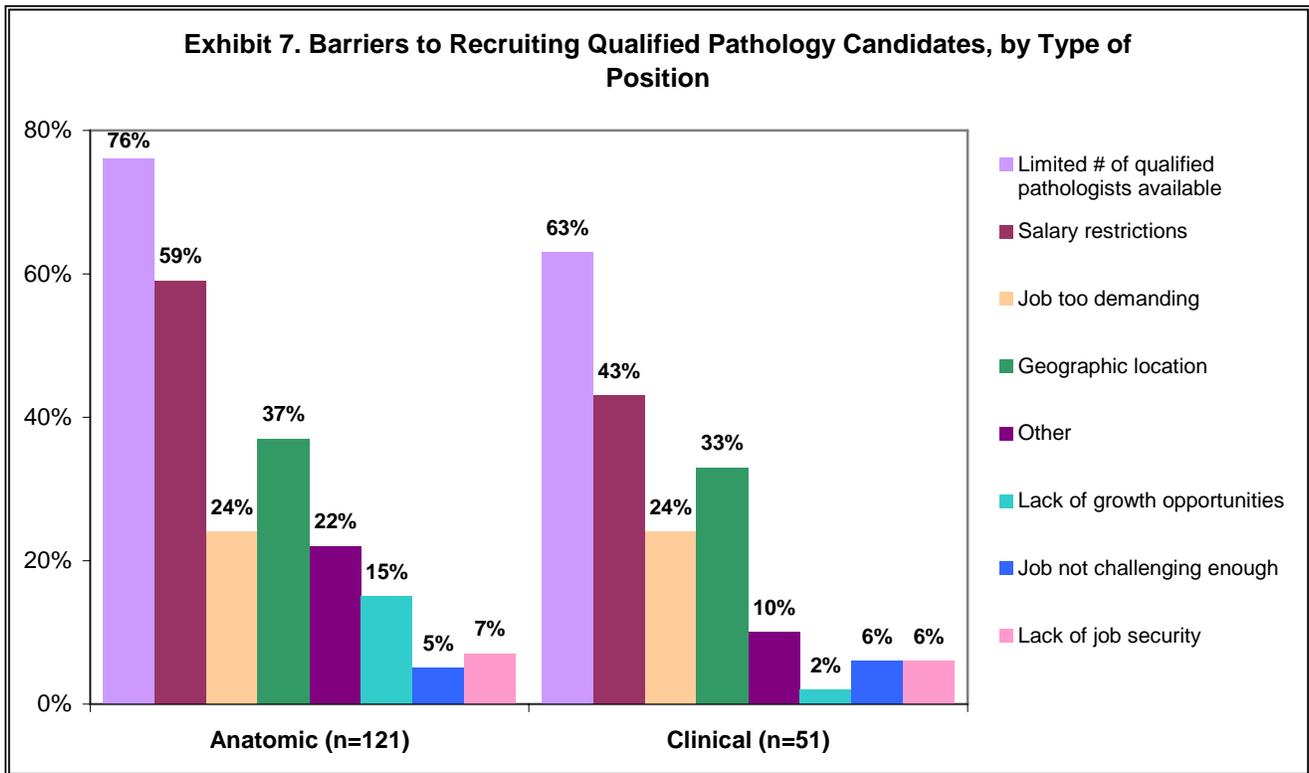
Exhibit 6. Importance of Pathology Candidates Having a Ph.D., by Type of Position



Importance of a Ph.D. Exhibit 6 indicates that candidates having a Ph.D. is important to about one-third of respondents for both anatomic and clinical veterinary pathologist positions: 36.9% of respondents to the anatomic pathology portion of the questionnaire and 42.0% of respondents to the clinical pathology portion said it is “very important” or “somewhat important.” Respondents see having a Ph.D. as more critical for clinical than for anatomic pathology positions.

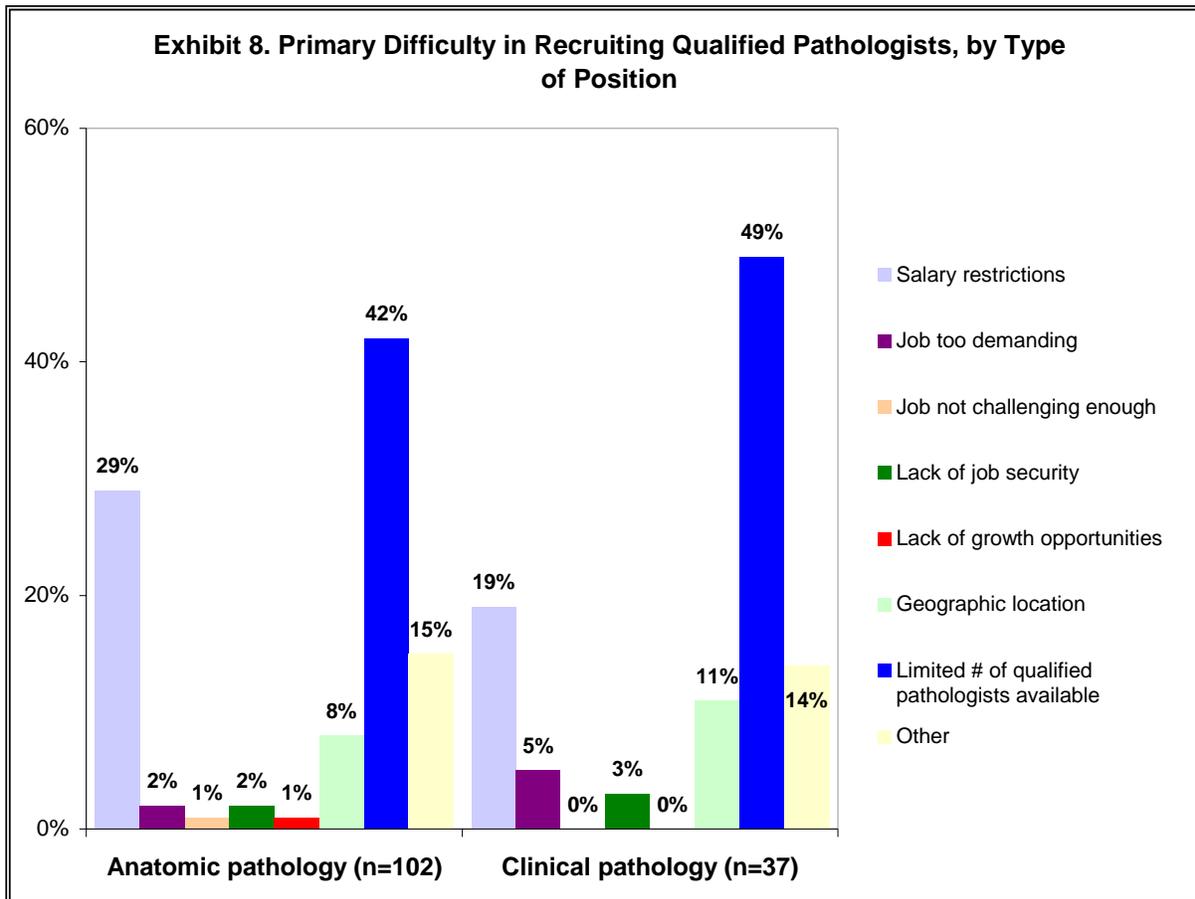
Barriers to recruiting qualified pathology candidates

When asked if it is difficult to recruit qualified pathologists, 87.6% (106 of 121) of respondents to the anatomic pathology portion of the questionnaire and 78.0% (39 of 50) of those to the clinical pathology portion said that it is. Another question provided respondents with the opportunity to identify the reasons it is difficult to recruit qualified candidates, which are summarized on the following page in Exhibit 7. Respondents were asked to select all reasons that applied. (For example, one respondent could choose *both* salary and geographic location.) The most cited reason by far was the limited number of qualified pathologists available (76.2% for anatomic pathologists, 62.7% for clinical pathologists), followed by salary restrictions (59.0% anatomic, 43.1% clinical). At least a third (37.2% anatomic, 33.3% clinical) cited geographic location as a barrier, and nearly a quarter (24.0% anatomic, 23.5% clinical) of responding institutions suggested that candidates see the job as too demanding. When asked what other barriers exist besides those offered, the reason given most often was competition from industry.



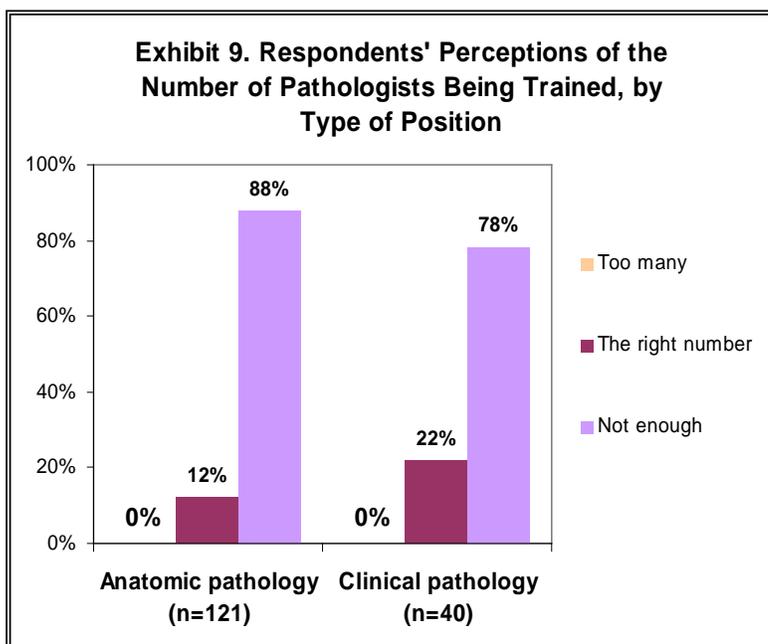
Primary difficulty in recruiting qualified job applicants

Of all the options listed in the previous question, respondents were asked to pick the *single primary* reason it is difficult to recruit qualified job applicants. The limited number of qualified pathologists was the option most often selected by respondents as the primary difficulty in recruiting qualified pathologists, followed by salary restrictions (Exhibit 8). Respondents also selected the “other” option and wrote in difficulties such as candidates’ lack of interest in academia or lack of interest in the primary service offered by the institution.

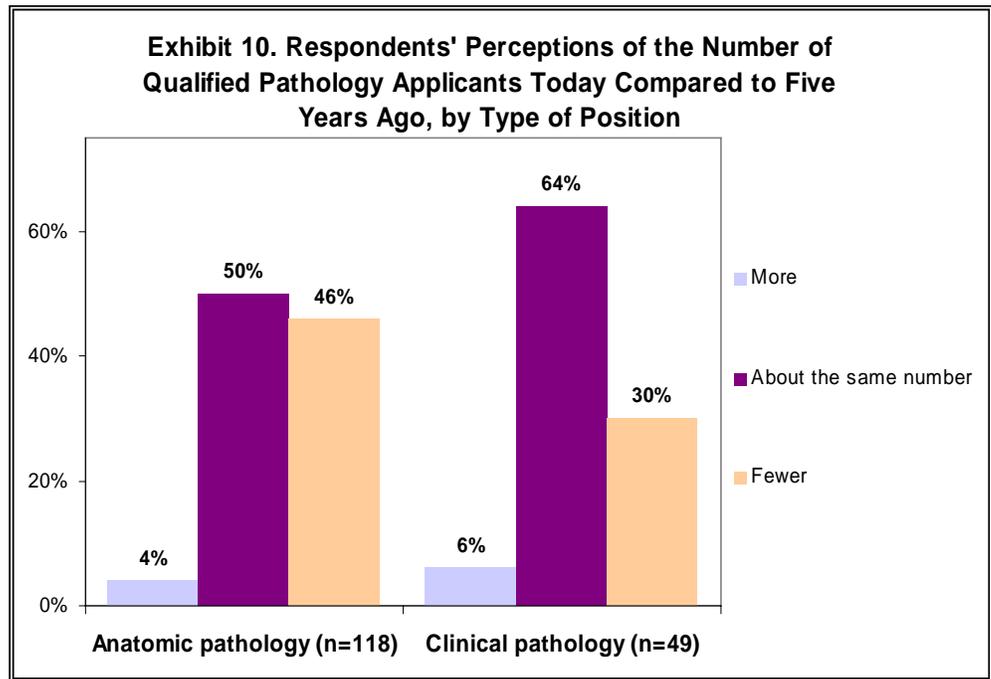


Perceptions of the number of pathologists being trained and number of qualified pathologists for open job positions

Number of pathologists being trained. The employer questionnaire asked if, given the current supply and demand of veterinary pathologists, enough pathologists are being trained, too few are being trained, or too many are being trained. Regardless of type of position, a majority of respondents suggested that not enough are being trained, as can be seen in Exhibit 9. More than 88% of respondents to that portion of the instrument believe that not enough anatomic pathologists are being trained, while 78% of respondents to the clinical pathology portion indicated that not enough clinical pathologists are being trained. Those reporting that the right numbers are being trained represented 11.8% of the anatomic pathology respondents and 22% of the clinical pathology respondents. No one suggested that too many pathologists of either type are being trained.

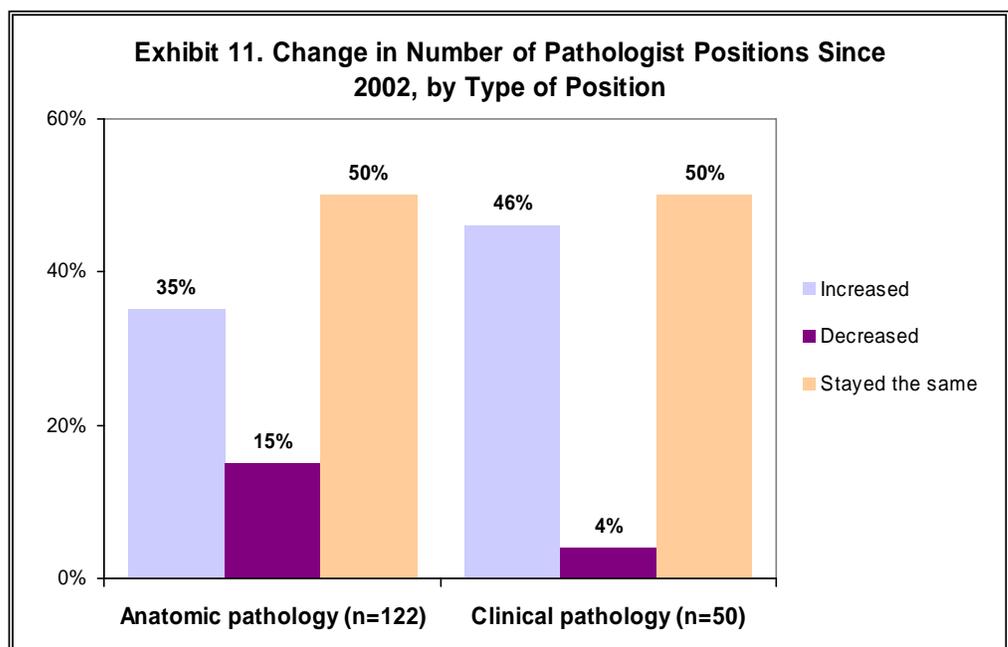


Number of qualified job applicants. Exhibit 10 presents responses to questions asking about the number of qualified pathologist job candidates today compared to five years ago. Most respondents (50.0%) indicated that the number of qualified anatomic pathology candidates today is about the same as five years ago; 45.8% felt there are fewer today, and few (4.2%) claimed there are more. With regard to clinical pathology candidates, nearly two-thirds (63.8%) of respondents to that section of the questionnaire suggested that there are about the same number, while 29.8% said there are fewer. Six percent said there are more clinical pathology candidates today than five years ago.



Changes in the number of pathologists since 2002

Respondents were asked a series of questions about the number of anatomic pathologist positions within their organization. First, they reported whether the overall number has increased, decreased, or stayed the same since 2002 (Exhibit 11). Exactly half of respondents to the anatomic pathology portion of the instrument reported that the number was the same, followed by about 35% who reported an increase and 15% who reported a decrease. Next, respondents reported how many pathologists had left or joined the organization in that time period because of various reasons: retirement, merger/reorganization, switching from public to private and vice versa, staying within the private or public sector, or leaving the specialty. Looking at



the average number of anatomic pathologists who left the organization for each reason, the biggest loss was those who left and stayed within the same sector, followed by retirement. Similarly, the biggest increase was pathologists who joined and stayed within the same sector, followed by those who joined when switching from public to private employment.

The same questions were asked about clinical pathologist positions within the respondents' organizations. As in the anatomic section, exactly half of respondents reported that the number was the same since 2002. Slightly less (46.0%) said that the number had increased, and only 4% reported a decrease. Looking at the average number of clinical pathologists who left the organization for each reason, the biggest loss was those who left and stayed within the same sector, followed by leaving for other known reasons, and retirement. Similarly, the biggest increase was pathologists who joined and stayed within the same sector, followed by other known reasons, and those who joined due to a merger or reorganization.

Skill sets needed for veterinary pathologist positions in the future

Open-ended items invited respondents to identify the skill sets that will be required at their institutions for pathologist positions in the future that are not required currently. Summary lists of the skills sets needed and the frequency of each response are provided in Exhibit 12. (All responses to these items can be found in Appendix D.)

Exhibit 12. Perceived Skill Sets Needed for Future Success in Veterinary Pathology, by Type of Position

ANATOMIC PATHOLOGY		
Skill Set	# Responses*	%
Molecular/Cellular Biology, Molecular Genetics Diagnostic, Molecular Pathology (including <i>in situ hybridization</i>)	13	21.3%
Toxicologic Pathology/Pharmacology (including <i>drug development</i>)	7	11.5
Research skills	14	23.0
“Soft” skills/non-science related experience	8	13.1
Animal-related laboratory experience	10	16.4
Technology	7	11.5
Anatomic Pathology	2	3.3
Clinical Pathology	8	8.2
Epidemiology/Public Health	2	3.3
Laboratory-related animal research	1	1.6
Other	8	23.0
CLINICAL PATHOLOGY		
Skill Set	# Responses†	%
Molecular/Cellular Biology, Molecular Genetics	3	13.6%
Soft skills (e.g., communication, customer interaction)	4	18.2
Specific technology (e.g., digital imaging, voice recognition)	5	22.7
Other	4	18.2

*Respondents to Q15 (n=61) often mentioned more than one skill set. Each mention of a specific skill set was counted as an individual response.

†Respondents to Q27 (n=22) often mentioned more than one skill.

Additional commentary provided by respondents

A final open-ended item allowed respondents to record their comments, concerns, and observations on whatever topic they chose. Some used the opportunity to discuss conditions at their own institutions in greater detail:

- For small consulting organizations like myself, the scarcity of veterinary pathologists means that most will take the highest paying job in industry or start their own consulting firm rather than work for some else. I have previously tried to hire anatomic pathologists but could not compete with big pharmaceutical companies.
- Our situation is unique, as we train veterinary pathologists needed to fill positions only within the [ORGANIZATION]. We have seldom had a recruiting problem historically and do not anticipate such in the near future. However, retention of trained pathologists is a bit more challenging and will only get more difficult as the disparity between U.S. government salaries and the private sector opportunities widens.
- [ORGANIZATION] currently has 15+ laboratories in the U.S. as well as many labs internationally ([OTHER COUNTRIES]). My answers are mostly directed at our limited needs on the U.S. west coast. Our strongest challenge now is regional preferences and cost differentials. Hiring goes through a central recruiting department, and applicants have choices to work in many labs besides just ours. We typically end up hiring people just coming out of residency programs before they have had a chance to take board exams. We have relatively few applicants from academia or pharmaceutical industry.

Other comments focused on the lack of qualified pathologists:

- Good pathologists are difficult to find!
- I would love to hire a clinical pathologist in a research position, but due to shortage of them, and lack of research training, I don't think I can fund a position.
- We need a good supply of anatomical and clinical pathologists that can effectively teach and perform excellent diagnostic procedures. Others will need good research training in these disciplines.
- The AAVLD plans to do a very similar kind of survey (I have been remiss) of shortages in the field of veterinary diagnostic medicine. Our biggest shortage is in TRAINED veterinary diagnostic pathologists, and to a lesser extent in other disciplines. The fix in my opinion is that more training positions need to be located in diagnostic laboratories, including (perhaps "particularly") those d-laboratories that have no affiliation with a veterinary school. I say particularly because the nonveterinary school, AAVLD-accredited laboratories should have the capability to produce focused diagnosticians. Last point: we've had several failed searches recently and have gone from requiring PhD + board-certification (ACVP or ECVF) to board-certification to (most reluctantly) to board-eligible. This has come about in the last 5-7 years.

■ APPENDIX A ■

Data Used to Create Report's Graphs

Exhibit 1. Applicants per Position in the Last Two Years, by Type of Position

	Anatomic Pathology		Clinical Pathology	
	<i>n</i>	%	<i>n</i>	%
0 applicants	6	6.5%	7	25.9%
1 applicant	26	28.0	5	18.5
2 applicants	22	23.7	8	29.6
3 applicants	24	25.8	6	22.2
4 or more applicants	15	16.2	1	3.7
TOTAL	93	100.0	27	99.9*

*Does not total 100.0 due to rounding.

Exhibit 2. Average Time Needed to Fill Open Pathologist Positions, by Type of Position

	Anatomic Pathology		Clinical Pathology	
	<i>n</i>	%	<i>n</i>	%
Less than 3 months	7	6.0%	1	2.2%
3–6 months	16	13.7	8	17.4
7–12 months	43	36.8	22	47.8
13–18 months	31	26.5	10	21.7
19 months or more	20	17.1	5	10.9
TOTAL	117	100.0	46	100.0

Exhibit 4. Minimum Requirements for Veterinary Pathologist Positions, by Type of Position*

	Anatomic Pathology (<i>n</i> =122)		Clinical Pathology (<i>n</i> =51)	
	<i>n</i>	%	<i>n</i>	%
Residency training	61	50.0%	26	51.0%
ACVP board training	66	54.1	31	60.8
ACVP board certification	45	37.2	21	41.2
ECVP board certification	4	3.3	2	3.9
Ph.D.	27	22.3	13	25.5
Other	20	16.4	4	7.8

*Respondents could select more than one.

Exhibit 5. Importance of ACVP Certification, by Type of Position

	Anatomic Pathology (<i>n</i> =122)		Clinical Pathology (<i>n</i> =50)	
	<i>n</i>	%	<i>n</i>	%
(a) Would hire pathologist without ACVP certification	90	73.8%	32	64.0%
	(<i>n</i>=89)		(<i>n</i>=32)	
(b) Would require certification after hiring	76	85.4	29	90.6

Exhibit 6. Importance of Pathology Candidates Having a Ph.D., by Type of Position

	Anatomic Pathology		Clinical Pathology	
	<i>n</i>	%	<i>n</i>	%
Not at all important	28	23.0%	12	24.0%
Not too important	22	18.0	8	16.0
Somewhat important	22	18.0	10	20.0
Very important	23	18.9	11	22.0
Depends upon the position	27	22.1	9	18.0
TOTAL	122	100.0	50	100.0

Exhibit 7. Barriers to Recruiting Qualified Pathology Candidates, by Type of Position*

	Anatomic Pathology (<i>n</i> =122)		Clinical Pathology (<i>n</i> =51)	
	<i>n</i>	%	<i>n</i>	%
Salary restrictions	72	59.0%	22	43.1%
Candidates see job as too demanding	29	24.0	12	23.5
Candidates see job as not challenging enough	6	5.0	3	5.9
Lack of job security	9	7.4	3	5.9
Lack of growth opportunities	18	14.9	1	2.0
Geographic location of institution	45	37.2	17	33.3
Limited number of qualified pathologists	93	76.2	32	62.7
Other	26	21.3	5	9.8

*Respondents could select more than one.

Exhibit 8. Primary Difficulty in Recruiting Qualified Pathologists, by Type of Position

	Anatomic Pathology		Clinical Pathology	
	<i>n</i>	%	<i>n</i>	%
Salary restrictions	30	29.4%	7	18.9%
Candidates see job as too demanding	2	2.0	2	5.4
Candidates see job as not challenging enough	1	1.0	0	0.0
Lack of job security	2	2.0	1	2.7
Lack of growth opportunities	1	1.0	0	0.0
Geographic location of institution	8	7.8	4	10.8
Limited number of qualified pathologists	43	42.2	18	48.6
Other	15	14.7	5	13.5
TOTAL	102	100.0	37	100.0

Exhibit 9. Respondents' Perceptions of the Number of Pathologists Being Trained, by Type of Position

	Anatomic Pathology		Clinical Pathology	
	<i>n</i>	%	<i>n</i>	%
Not enough	105	88.2%	39	78.0%
The right number	14	11.8	11	22.0
Too many	0	—	0	—
TOTAL	119	100.0	50	100.0

Exhibit 10. Respondents' Perceptions of the Number of Qualified Pathology Applicants Today Compared to Five Years Ago, by Type of Position

	Anatomic Pathology		Clinical Pathology	
	<i>n</i>	%	<i>n</i>	%
Fewer	54	45.8%	14	29.8%
About the same number	59	50.0	30	63.8
More	5	4.2	3	6.4
TOTAL	118	100.0	47	100.0

Exhibit 11. Change in the Number of Pathologists Since 2002, by Type of Position

	Anatomic Pathology		Clinical Pathology	
	<i>n</i>	%	<i>n</i>	%
Increased	43	35.2%	23	46.0%
Decreased	18	14.8	2	4.0
Stayed the same	61	50.0	25	50.0
TOTAL	122	100.0	50	100.0

Methodological Report

Study design

Staffing. The project coordinator responsible for the budgeting and administration of this study was Kelly Ann Marzano.

Questionnaire development. Since SRL conducted a similar study for the ACVP in 2002, SRL had the questionnaire used in the original study. The client provided some additional questions and small revisions for existing questions. The head of SRL's Questionnaire Review Committee (QRC) reviewed the changes to the questionnaires. The QRC, which consists of SRL staff members appointed by the Director, examines all questionnaires administered by SRL to ensure they follow ethical practices and basic principles of questionnaire construction. Both the client and the head of the QRC approved the final version of the questionnaire.

IRB review. The study protocol was reviewed by a member of Institutional Review Board #2 of the University of Illinois at Chicago on November 2, 2007 (Protocol #2007-0816), and approval to begin the study was granted based on the IRB's determination that protocol met the criteria for exemption as defined in the U.S. Department of Health and Human Services Regulations for the Protection of Human Subjects [(45 CFR 46.101(b))].

Study sample

Sample design. The sample consisted of a list of organizations in the United States and Canada where veterinary pathologists were thought to be employed.

Since SRL had conducted a similar study for the ACVP five years ago, no pretest was conducted. The main study sample provided by the client originally consisted of almost 800 cases. However, many had addresses outside the U.S. and Canada, and a great many were duplicates (i.e., different contact persons representing the same organization). SRL's contact for the study, the Demographics Subcommittee, provided refinement, which resulted in 281 study cases. It also was determined that due to multiple contacts at some institutions, responses should be handled at the institutional, rather than individual, level. This change further reduced the sample to 248.

Data was collected by administering questionnaires on-line and by mail. Each case in the sample file consisted of the name of the contact person, organization name, e-mail, mailing address, and telephone number.

Disposition of sample. Because of the mixed method of data collection, a separate sample disposition is first calculated for on-line and mail questionnaires.

On-line questionnaire. Data initially were collected for this study using Zoomerang, an on-line survey service. The contact lists were imported into Zoomerang, and the program customized an e-mail asking each respondent to complete the questionnaire. The survey was launched to the smallest substratum in the sample as a test on November 2, 2007. Because no significant issues were found, the questionnaire was launched to the rest of the sample on November 8. Reminder e-mails were sent to nonrespondents on November 8, November 19, and November 28.

Exhibit B-1. Disposition of Online Sample for Veterinary Pathologist Employers

Disposition	Number	Percent
Completed questionnaire online	100	35.6%
Did not respond	163	58.0
Ineligible, does not employ veterinary pathologists, retired, or no longer practices veterinary pathology	2	0.7
Refusal	3	1.1
Nondeliverable e-mail address	11	3.9
No e-mail address in original file	2	0.7
TOTAL	281	100.0%

Exhibit B-1 presents the disposition of sample for the on-line survey. "Refusal" indicates the person informed the ACVP or project coordinator that he or she did not want to participate or chose to "opt out" of the survey through a feature in Zoomerang. "Nondeliverable e-mail address" indicates that the e-mail address was returned as invalid. Thirteen e-mail addresses were determined to be nondeliverable after the initial survey launch. SRL asked the client for deliverable addresses, but only two could be located before a paper version of the questionnaire was mailed to nonrespondents. E-mail invitations were sent to those two e-mail addresses.

The response rate is the number of completed questionnaires divided by the number of eligible respondents. Three respondents are recorded as having completed the questionnaire in Zoomerang, but these cases contained all blank fields. This may have occurred because the individuals reviewed all questions and did not realize they could not go back and answer them later. In Zoomerang, once you have viewed a survey page and moved to the next one, you may not revisit it. Because we were never contacted by these individuals and do not know if they intended to submit a blank questionnaire, they were considered as nonrespondents for the on-line portion of the survey and left in the sample to receive a questionnaire by mail at a later date.

There were 100 completed on-line questionnaires. One respondent from the original sample was ineligible because the organization did not employ veterinary pathologists, one respondent had retired, and one was no longer practicing veterinary medicine, resulting in a total eligible sample of 279. **The response rate is 35.8% (100/279).**

Mail questionnaire. A paper questionnaire was sent by regular mail on December 4 to all nonrespondents of the on-line questionnaire and to those who did not receive the on-line questionnaire due to a missing or nondeliverable e-mail address. A postcard reminder was sent on December 12 and 19. Data collection was closed for both on-line and mail questionnaires on January 9, 2008. Exhibit B-2 presents the final disposition of sample for the employer sample. "Refusal" indicates that a respondent either returned a blank questionnaire or sent a note stating that he/she would not participate. "Unable to locate" indicates that the questionnaire was returned from the post office because of an incorrect address.

The number of individuals to which a questionnaire was mailed was smaller among academic departments and colleges for the mail sample than for the on-line questionnaire. Each university maintains its records in a different manner, and at some universities, the dean might be responsible for any requested data reporting for a department that is part of his or her college. In other universities, the department chair will be responsible for any requested data reporting that pertains to his or her department. Because we are unable to predict how each university might handle data reporting, the client asked SRL to include the dean, department chair or head, and, in some cases, the director of an academic program. The client asked us to remove all entries for an

Exhibit B-2. Disposition of Mail Sample for Veterinary Pathologist Employers

Disposition	Excluded	Number	Percent
Completed questionnaire on-line	100		
Refusals & ineligible respondents from final on-line sample	5		
Removed from academic dept. & colleges sample	31		
Total excluded after on-line sample	136		
Completed paper questionnaire		41	28.1%
Refusals		0	0.0
Ineligible, does not employ veterinary pathologists		0	0.0
Did not return questionnaire		104	71.9
	Total	146	100.0

academic institution once we received a response from that institution. It was the client's belief that we would likely only be soliciting duplicate data with further contact.

Approximately 29 cases in the academic departments and colleges stratum were removed prior to mailing the questionnaires as a result of this request. We did receive duplicate responses from two institutions; after consulting with the client, it was determined that the response submitted by the department head would be included in the results and those of the deans excluded, thus reducing this stratum by two more. In both cases, the response submitted by the department head was more complete.

The response rate is the number of completed questionnaires divided by the number of eligible respondents. Excluding the ineligible respondents, the respondents who refused during the on-line stage of the survey, and the 100 completed on-line questionnaires, there were 41 completed questionnaires out of 146 eligible respondents for the mail questionnaire. **The mail sample response rate was 28.1% (41/146).**

Final disposition of sample (on-line and mail). Exhibit B-3 presents the final aggregate disposition of employer sample.

Exhibit B-3. Final Disposition of Sample for Veterinary Pathologist Employers

Disposition	Number	Percent
Completed questionnaire on-line	100	40.3%*
Completed questionnaire by mail	41	16.5*
Total completes (final response rate)*	141	56.9*
Ineligible, does not employ veterinary pathologists	2	
Final refusal	3	
Removed as a duplicate from the academic dept. & colleges stratum	31	
Did not respond/return questionnaire	102	
	Total	279
		100.0%

*Percentages and response rates calculated using the final eligible sample of 248.

Employer nonresponse rates

There may be a number of reasons for the large number of nonresponses in the employer sample, including when the survey was administered, activities and deadlines for the sponsoring organization of the survey and for respondents, and the general understanding respondents had about the purpose of the survey. Due to the timing of this survey, its initial launch occurred in November, when the

annual ACVP meetings were held. As a result, many individuals who were in the study sample were away from their offices and may not have had adequate access to their records or on-line access to fill out the questionnaire when it was first sent to them. The ACVP meetings were followed a short time later by the Thanksgiving holiday, when many again were away from their offices. One more e-mail reminder was sent after the Thanksgiving weekend before the mail sample was launched, netting only a few more responses. November is also nearing the end of the academic term for many colleges and departments, so end-of-term grades, reports, and other activities due at universities may have affected the response rate for individuals in academic colleges and departments.

Some members of the academic departments and colleges stratum also appear to have been confused by receiving two questionnaires, one by mail to gather information on their role as a training program and one on-line to gather information on their role as an employer. SRL received at least one e-mail from a respondent *prior* to mailing out the paper version of the employer questionnaire, indicating further invitations to the on-line questionnaire were unnecessary because the paper version had been completed. In reality, the individual had filled out the *trainer* questionnaire and not the employer questionnaire. SRL received at least two other phone calls from respondents expressing confusion about which questionnaire to fill out. These contacts from respondents might indicate that some academic departments did not complete the employer questionnaire because they erroneously believed they had already done so when they had really completed the trainer questionnaire.

The ACVP also was conducting a survey on ACVP membership compensation at the same time this study was underway. SRL received phone calls indicating confusion regarding to which survey an individual was responding. Some respondents who completed the compensation survey may not have completed this survey, also believing they had already done so.

Lastly, in general, the longer SRL can leave data collection open, the better the response rate will be. The ACVP needed to meet a deadline for an organizing body to which they must report; as a result, SRL had to terminate data collection earlier than was optimal to ensure enough time to analyze the results. Had SRL been able to leave data collection open for a few more weeks, the response rate might have been higher.

As a result of nonresponse in the employer stratum, some of the estimates in the body of the report may be low, particularly statistics like the number of pathologists that will be hired or the number that will be hired due to retirement. As a consequence, we calculated response rates for four different institutional sizes and created nonresponse weights for those four strata. The nonresponse weights are simply the inverse of the response rate. These numbers are provided in Exhibit B-4.

Once the estimates were weighted by the nonresponse weights, the weighted sample size was larger than the actual sample size ($n=221$). To adjust these weights so the weighted cases sum to the correct number, the nonresponse weights were adjusted by the ratio of the actual sample size to the weighted sample size ($141/221$), resulting in the final weights listed in Exhibit B-4.

Exhibit B-4. Response Rates and Nonresponse Weights, by Institution Size

INSTITUTION SIZE	# of respondents	# of nonrespondents	Total	Response rate	Nonresponse weight	Final weight
0	2	26	28	7.1%	14.00	8.9
1-5	75	51	126	59.5%	1.68	1.1
6-10	27	11	38	71.1%	1.41	0.90
11 or more	34	4	38	89.5%	1.12	0.71

■ **APPENDIX C** ■

Survey Materials



November 20, 2007

<Salutation> <First Name> <Last Name>
<Title>
<Department or college>
<Institution>
<Street Address>
<City>, <State> <Zip code>

Dear <Salutation> <Last Name>:

The American College of Veterinary Pathologists (ACVP), in conjunction with the Society of Toxicologic Pathologist (STP) and the American Society of Veterinary Clinical Pathologists (ASVCP) recently initiated a new supply and demand study similar to the one first conducted in 2002. The ACVP has established a Demographics Subcommittee under the aegis of its Recruitment Committee to determine if there has been a change in demand for veterinary pathologists and whether there is a continued shortage of veterinary pathologists in the workplace. The Subcommittee plans to use the new information to propose modifications, if necessary, to the plans of the three participating organizations to address the shortfall issue.

The ACVP/STP/ASVCP Demographic Subcommittee is requesting your help in completing a questionnaire to determine (1) if the shortage of qualified veterinary pathologists in the workplace has decreased, increased, or stayed the same since 2002, and (2) the projected demand for veterinary pathologists in the next five years.

The Subcommittee also hopes to share the information with the National Academy of Sciences committee, *Assessing the Current and Future Workforce Needs in Veterinary Medicine*, as part of its report to Congress in relation to the proposed Veterinary Medicine Workforce Act.

You are receiving this questionnaire because you have been identified by the Subcommittee as someone who employs veterinary pathologists. Another questionnaire is being sent to veterinary pathology training programs in North America. Completing the questionnaire should take approximately 20 minutes of your time. The Survey Research Laboratory (SRL) at the University of Illinois at Chicago is assisting us with this survey. For further information about this study, please visit the following study link: www.srl.uic.edu/vpemploy.htm

Participation in this survey is voluntary and you are free to stop answering this questionnaire anytime. Your decision to participate, decline, or withdraw from participation will have no effect on your status at or future relations with the University of Illinois, the ACVP, the STP or the ASVCP. The information you provide will be kept completely confidential by the SRL and will only be reported as group data; however, a summary will be sent to each institution that returns the questionnaire. There are no known risks to participating in this study.

If you have any questions about this study, please contact ACVP's Executive Director Wendy Coe at (608)443-2466, ext. 149 or by e-mail at wcoe@acvp.org. If you need another copy of the questionnaire, please contact Kelly Ann Marzano, Project Coordinator at the Survey Research Laboratory, at (312) 996-6475 or by e-mail at kellym@srl.uic.edu. Thank you in advance for taking the time to help us with this research.

Sincerely,

Matthew A. Wallig
Chair, ACVP Demographics Subcommittee

REMINDER/THANK YOU POSTCARD

Front

Dear Colleague,

Recently we sent you a questionnaire from the American College of Veterinary Pathologists, the Society of Toxicologic Pathologists, and the American Society of Veterinary Clinical Pathologists that we would like you to complete. More information about the study can be found at: www.srl.uic.edu/vpemploy.htm. If you have completed this questionnaire already, please disregard this notice. If you have not yet completed the questionnaire, we urge you to take time to do so as soon as possible. Please return your completed questionnaire in the postage-paid envelope sent with the original mailing. If you have any questions or need another copy of the questionnaire sent to you, please contact Kelly Ann Marzano at the Survey Research Laboratory at (312)996-6475 or by email at kellym@srl.uic.edu. Thank you for your assistance.

Sincerely,
Kelly Ann Marzano

Back

THE UNIVERSITY OF ILLINOIS AT CHICAGO
Survey Research Laboratory
412 S. Peoria
Chicago, Illinois 60607

SRL Project 1037



Survey of Employers of Veterinary Pathologists

Prepared by the ACVP Recruitment Committee

Funded by the ACVP, STP, and ASVCP

The questionnaire is organized into two main sections: one dealing with current and future employment of veterinary anatomic pathologists and one addressing current and future employment of veterinary clinical pathologists. If your organization does not employ and has no plans to employ one of these types of pathologists, you may skip the section that does not apply to your organization.

If you have questions, please contact Project Coordinator Kelly Marzano at (312) 996-6475 or via e-mail at kellym@srl.uic.edu.

1. Name of organization: _____

2. Name, title, and department/unit of individual completing the questionnaire:

Name: _____

Title: _____

Department/Unit: _____

3. Currently, how many anatomic and clinical pathologists are employed at your organization?

employed

a. Anatomic pathologists: _____

b. Clinical pathologists: _____

Please check one box for each question unless otherwise specified.

If you are providing information about your organizations' current and future employment of **anatomic pathologists**, please continue with #4.

If you are providing information about your organizations' current and future employment of **clinical pathologists**, go to #15 on page 6.

Current demand for veterinary anatomic pathologists

4. Given the current supply and anticipated demand of veterinary anatomic pathologists,

- 1 The right number of anatomic pathologists are being trained
- 2 Not enough anatomic pathologists are being trained
- 3 Too many anatomic pathologists are being trained

5a. Is it difficult to recruit qualified anatomic pathologists in your organization?

- 1 Yes
- 2 No → SKIP TO #6a

5b. Which of the following reasons make it difficult for your organization to recruit qualified anatomic pathology candidates? (CHECK ALL THAT APPLY.)

- 1 Salary restrictions
- 2 Candidates see job as too demanding
- 3 Candidates see job as not challenging enough
- 4 Lack of job security
- 5 Lack of growth opportunities
- 6 Geographic location of organization
- 7 Limited number of qualified anatomic pathologists available
- 8 Other → PLEASE SPECIFY: _____

IF YOU CHECKED ONLY ONE REASON, SKIP TO #6a.

5c. What is the primary reason it is difficult for your organization to recruit qualified anatomic pathology candidates? (CHECK ONLY ONE.)

- 1 Salary restrictions
- 2 Candidates see job as too demanding
- 3 Candidates see job as not challenging enough
- 4 Lack of job security
- 5 Lack of growth opportunities
- 6 Geographic location of organization
- 7 Limited number of qualified anatomic pathologists available
- 8 Other → PLEASE SPECIFY: _____

6a. During the last two years, have there been any open anatomic pathology positions at your organization?

- 1 Yes
- 2 No → SKIP TO #7

6b. During the last two years, what has been the average number of qualified applicants for each anatomic pathology position available at your organization?

_____ candidates

7. Compared to five years ago, are there currently fewer qualified anatomic pathology candidates, about the same number of qualified candidates, or more qualified candidates?

- 1 Fewer candidates
- 2 About the same number
- 3 More candidates

8. Recognizing that different anatomic pathology positions may have different requirements, which of the following qualifications are minimum requirements for all anatomic pathology positions at your organization? (CHECK ALL THAT APPLY.)

- 1 Residency training
- 2 ACVP board eligibility
- 3 ACVP board certification
- 4 ECVP board certification
- 5 Ph.D.
- 6 Other → PLEASE SPECIFY: _____

9a. Would your organization hire an anatomic pathologist that is not ACVP board certified?

- 1 Yes
- 2 No → SKIP TO #10

9b. Would your organization expect a newly-hired anatomic pathologist without ACVP certification to complete certification at some point after being hired?

- 1 Yes
- 2 No

10. If you have a candidate who is ACVP board certified in pathology, how important is it that the person also have a Ph.D.?

- 1 Very important
- 2 Somewhat important
- 3 Not too important
- 4 Not at all important
- 5 Depends upon the position

11a. Since 2002, has the number of anatomic pathologist positions in your organization increased, decreased, or stayed the same?

- 1 Increased
- 2 Decreased
- 3 Stayed about the same → SKIP TO Q12

11b. The table below lists several reasons individual pathologists may have left or joined your organization since 2002. For each reason listed, please indicate the number of individuals affected. If there was no change, please enter 0.

Left/Joined due to...	# of pathologists left	# of pathologists joined
Retirement.....	_____	_____
Merger/Reorganization.....	_____	_____
Switched from public [†] to private [‡] employment.....	_____	_____
Switched from private to public employment.....	_____	_____
Stayed within the private sector or stayed within the public sector.....	_____	_____
Other.....	_____	_____
↳ PLEASE SPECIFY: _____		

Left the specialty.....	_____	_____
Don't know.....	_____	_____

[†]Public: academia, diagnostic laboratory, government.

[‡]Private: industry, contract research organization, private consulting.

12. Currently, how many anatomic pathologist positions are open at your organization?

_____ open positions

13a. What is the average time it takes to fill an anatomic pathologist position in your organization?

- 1 Less than 3 months
- 2 3 to 6 months
- 3 7 to 12 months
- 4 13 to 18 months
- 5 Longer than 18 months

13b. How quickly would you like to be able to fill an open anatomic pathologist position at your organization?

_____ # of months

Future demand for veterinary anatomical pathologists

14. We would like your best estimate of the number of future openings for veterinary anatomic pathologists and the number due to retirement.

- a. How many veterinary anatomic pathologists does your organization expect to hire in the following time periods?
- b. How many position openings would be due to retirements?

	<u># openings</u>	<u># due to retirements</u>
i. In 2008–2009.....	_____	_____
ii. In 2010–2013.....	_____	_____

15. What additional skill sets will be required for anatomic pathologist positions in the future that are not required currently by your organization? (PLEASE LIST.)

If you can provide information about your organization's current and future employment of **clinical pathologists**, please continue with #16. If not, please skip to #28.

Current demand for veterinary clinical pathologists

16. Given the current supply and demand of veterinary clinical pathologists,

- 1 The right number of clinical pathologists are being trained
- 2 Not enough clinical pathologists are being trained
- 3 Too many clinical pathologists are being trained

17a. Is it difficult to recruit qualified clinical pathologists in your organization?

- 1 Yes
- 2 No → SKIP TO #18a

17b. Which of the following reasons make it difficult for your organization to recruit qualified clinical pathology candidates? (CHECK ALL THAT APPLY.)

- 1 Salary restrictions
- 2 Candidates see job as too demanding
- 3 Candidates see job as not challenging enough
- 4 Lack of job security
- 5 Lack of growth opportunities
- 6 Geographic location of organization
- 7 Limited number of qualified clinical pathologists available
- 8 Other → PLEASE SPECIFY: _____

IF YOU CHECKED ONLY ONE REASON, SKIP TO #18a

17c. What is the primary reason it is difficult for your organization to recruit qualified clinical pathology candidates? (CHECK ONLY ONE.)

- 1 Salary restrictions
 - 2 Candidates see job as too demanding
 - 3 Candidates see job as not challenging enough
 - 4 Lack of job security
 - 5 Lack of growth opportunities
 - 6 Geographic location of organization
 - 7 Limited number of qualified clinical pathologists available
 - 8 Other → PLEASE SPECIFY: _____
-

18a. During the last two years, have there been any open clinical pathology positions at your organization?

- 1 Yes
- 2 No → SKIP TO #19

18b. During the last two years, what has been the average number of qualified applicants for each clinical pathology position available at your organization?

_____ candidates

19. Compared to five years ago, are there currently fewer qualified clinical pathology candidates, about the same number of qualified candidates, or more qualified candidates?

- 1 Fewer candidates
- 2 About the same number
- 3 More candidates

20. Recognizing that different clinical pathology positions may have different requirements, which of the following qualifications are minimum requirements for all anatomic pathology positions at your organization? (CHECK ALL THAT APPLY.)

- 1 Residency training
 - 2 ACVP board eligibility
 - 3 ACVP board certification
 - 4 ECVP board certification
 - 5 Ph.D.
 - 6 Other → PLEASE SPECIFY: _____
-

21a. Would your organization hire a clinical pathologist that is not ACVP board certified?

- 1 Yes
- 2 No → SKIP TO #22

21b. Would your organization expect a newly-hired clinical pathologist without ACVP certification to complete certification at some point after being hired?

- 1 Yes
- 2 No

22. If you have a candidate who is ACVP board certified in pathology, how important is it that the person also have a Ph.D.?

- 1 Very important
- 2 Somewhat important
- 3 Not too important
- 4 Not at all important
- 5 Depends upon the position

23a. Since 2002, has the number of clinical pathologist positions in your organization increased, decreased, or stayed the same?

- 1 Increased
- 2 Decreased
- 3 Stayed about the same → SKIP TO #24

23b. The table below lists several reasons individual pathologists may have left or joined your organization since 2002. For each reason listed, please indicate the number of individuals affected. If there was no change, please enter 0.

Left/Joined due to...	# of pathologists left	# of pathologists joined
Retirement.....	_____	_____
Merger/Reorganization.....	_____	_____
Switched from public [†] to private [‡] employment.....	_____	_____
Switched from private to public employment.....	_____	_____
Stayed within the private sector or stayed within the public sector.....	_____	_____
Other.....	_____	_____
↳ PLEASE SPECIFY: _____		

Left the specialty.....	_____	_____
Don't know.....	_____	_____

[†]Public: academia, diagnostic laboratory, government.

[‡]Private: industry, contract research organization, private consulting.

24. Currently, how many clinical pathologist positions are open at your organization?

_____ positions

25a. What is the average time it takes to fill a clinical pathologist position in your organization?

- 1 Less than 3 months
- 2 3 to 6 months
- 3 7 to 12 months
- 4 13 to 18 months
- 5 Longer than 18 months

25b. How quickly would you like to be able to fill an open clinical pathologist position at your organization?

_____ # of months

Future demand for veterinary clinical pathologists

- 26. We would like your best estimate of the number of future openings for veterinary clinical pathologists and the number due to retirement.
 - a. How many veterinary clinical pathologists does your organization expect to hire in the following time periods?
 - b. How many position openings would be due to retirements?

	<u># openings</u>	<u># due to retirements</u>
i. In 2008–2009	_____	_____
ii. In 2010–2013	_____	_____

- 27. What additional skill sets will be required for clinical pathologist positions in the future that are not required currently by your organization? (PLEASE LIST.)

- 28. Other comments:

- 29. Which of the following reasons best describes why you chose to complete this paper questionnaire rather than the on-line questionnaire?

- 1 Never received an e-mail with a link to the on-line questionnaire
- 2 Received an e-mail but the link to the on-line questionnaire did not work
- 3 Lost or deleted the e-mail with the link to the on-line questionnaire
- 4 Prefer paper questionnaires over on-line questionnaires
- 5 Forgot to complete the questionnaire until the paper version arrived

Thank you for your assistance!

Please submit your completed questionnaire in the enclosed postage-paid envelope to
The University of Illinois at Chicago
Survey Research Laboratory
412 S. Peoria
Chicago, Illinois 60607

Introductory E-mail

The American College of Veterinary Pathologists (ACVP), in conjunction with the Society of Toxicologic Pathologist (STP) and the American Society of Veterinary Clinical Pathologists (ASVCP) recently initiated a new supply and demand study similar to the one first conducted in 2002. The ACVP has established a Demographics Subcommittee under the aegis of its Recruitment Committee to determine if there has been a change in demand for veterinary pathologists and whether there is a continued shortage of veterinary pathologists in the workplace. The Subcommittee plans to use the new information to propose modifications, if necessary, to the plans of the three participating organizations to address the shortfall issue.

The ACVP/STP/ASVCP Demographic Subcommittee is requesting your help in completing a questionnaire to determine:

- (1) if the shortage of qualified veterinary pathologists in the workplace has decreased, increased or stayed the same since 2002, and
- (2) the projected demand for veterinary pathologists in the next five years.

The Subcommittee also hopes to share the information with the National Academy of Sciences committee, *Assessing the Current and Future Workforce Needs in Veterinary Medicine*, as part of its report to Congress in relation to the proposed Veterinary Medicine Workforce Act.

You are receiving a link to the questionnaire because you have been identified by the Subcommittee as someone who employs veterinary pathologists. Another questionnaire is being sent to veterinary pathology training programs in North America. Completing the questionnaire should take approximately 20 minutes of your time. Clicking on the URL link in this e-mail, or pasting it into your browser, will take you to the questionnaire.

The Survey Research Laboratory (SRL) at the University of Illinois at Chicago is assisting us with this survey. If you would like to download a paper copy of this questionnaire for information gathering purposes, you will find it at the following study link: www.srl.uic.edu/vpemploy.htm *However, please be sure to complete the questionnaire online.*

If you have any questions about this study, please contact ACVP's Executive Director Wendy Coe at (608)443-2466 ext. 149 or by email at wcoe@acvp.org. For questions regarding how to access your questionnaire online, please contact Kelly Ann Marzano, Project Coordinator at the Survey Research Laboratory, at (312)996-6475 or by email at kellym@srl.uic.edu. Thank you in advance for taking the time to help us with this research.

Sincerely,
Matthew A. Wallig
Chair, ACVP Demographics Subcommittee

Click here to access the questionnaire:
<Link to questionnaire>

Reminder E-mail

Dear <Salutation> <Last Name>,

Recently we sent you an e-mail with a link to a questionnaire from the American College of Veterinary Pathologists, the Society of Toxicologic Pathologists, and the American Society of Veterinary Clinical Pathologists that we would like you to complete. More information about the study can be found at: www.srl.uic.edu/vpemploy.htm If you have completed this questionnaire online already, thank you and you may disregard this notice. If you have not yet completed the questionnaire, we urge you to take time to do so as soon as possible. Clicking on the URL link at the end of this e-mail, or pasting it into your browser, will take you to the survey.

If you have any questions, please contact Kelly Ann Marzano at the Survey Research Laboratory at (312)996-6475 or by email at kellym@srl.uic.edu. Thank you for your assistance.

Sincerely,
Kelly Ann Marzano
Project Coordinator
Survey Research Laboratory

Click here:
<Link to questionnaire>



Veterinary Pathologist Employer Survey

This questionnaire has two main sections: one dealing with current and future employment of veterinary anatomic pathologists and one addressing current and future employment of veterinary clinical pathologists. If you are responsible for only one of these two programs, please gather the information you will need from the other program.

If your institution does not employ and has no plans to employ one of these types of pathologists, you do not need to complete the section that does not apply to your institution.

Participation in this survey is voluntary, and you are free to stop answering this questionnaire anytime. Your decision to participate, decline, or withdraw from participation will have no effect on your status at or future relations with the University of Illinois, the ACVP, the STP, or the ASVCP. The information you provide will be kept completely confidential by the Survey Research Laboratory and will only be reported as group data; however, a summary will be sent to each institution that returns the questionnaire. There are no known risks to participating in this study.

If you have any questions, please contact Project Coordinator Kelly Marzano at (312) 996-6475 or via e-mail at kellym@srl.uic.edu. You also can visit our informational Web site at www.srl.uic.edu/vpemploy.htm (opens in new window).

Click "SUBMIT" to begin the survey.



Survey Page 1



Veterinary Pathologist Employer Survey

1 Name of institution:

2 Name of individual completing the questionnaire:

3 Title of individual completing the questionnaire:

- 4 Department/unit of individual completing the questionnaire:

- 5 Currently, how many veterinary anatomic and clinical pathologists are employed at your institution?

IF NONE, PLEASE ENTER "0."

Anatomic pathologists:

Clinical pathologists:



Survey Page 2



Veterinary Pathologist Employer Survey

The following questions refer to employment in your veterinary **anatomic** pathologist program. Please check only one box for each question unless otherwise specified.

To download a PDF of this questionnaire for purposes of information gathering, please click [here](#) (opens a new window).

- 6 Will you be able to provide information about your organization's current and future employment of veterinary anatomic pathologists?

If your organization currently does not and has no plans to hire veterinary anatomic pathologists, select "No."

YES NO



Survey Page 3



Veterinary Pathologist Employer Survey

- 7 Given the current supply and anticipated demand of veterinary anatomic pathologists,
- The right number of anatomic pathologists are being trained
 - Not enough anatomic pathologists are being trained
 - Too many anatomic pathologists are being trained

- 8 Is it difficult to recruit qualified anatomic pathologists in your organization?



Survey Page 4



Veterinary Pathologist Employer Survey

- 9 Which of the following reasons make it difficult for your organization to recruit qualified anatomic pathology candidates?

PLEASE CHECK ALL THAT APPLY.

- Salary restrictions
- Candidates see job as too demanding
- Candidates see job as not challenging enough
- Lack of job security
- Lack of growth opportunities
- Geographic location of organization
- Limited number of qualified anatomic pathologists available
- Other (PLEASE SPECIFY)



Survey Page 5



Veterinary Pathologist Employer Survey

- 10 What is the **primary** reason it is difficult for your organization to recruit qualified anatomic pathology candidates?

IF YOU CHECKED ONLY ONE REASON IN THE PREVIOUS QUESTION, PLEASE SELECT "N/A."

- Salary restrictions
- Candidates see job as too demanding
- Candidates see job as not challenging enough
- Lack of job security
- Lack of growth opportunities
- Geographic location of organization
- Limited number of qualified anatomic pathologists available
- N/A
- Other (PLEASE SPECIFY)



Survey Page 6



Veterinary Pathologist Employer Survey

11 During the **last two years**, have there been any open anatomic pathology positions at your organization?

 YES NO

Survey Page 7



Veterinary Pathologist Employer Survey

12 During the last two years, what has been the average number of qualified applicants for each anatomic pathology position available at your organization?



Survey Page 8



Veterinary Pathologist Employer Survey

13 Compared to **five years ago**, are there currently fewer qualified anatomic pathology candidates, about the same number of qualified candidates, or more qualified candidates?

- Fewer candidates
- About the same number
- More candidates

14 Recognizing that different anatomic pathology positions may have different requirements, which of the following qualifications are **minimum** requirements for all anatomic pathology positions at your organization?

PLEASE CHECK ALL THAT APPLY.

- Residency training
- ACVP board eligibility
- ACVP board certification
- ECVP board certification
- Ph.D.
- Other (PLEASE SPECIFY)



Survey Page 9



Veterinary Pathologist Employer Survey

15 Would your organization hire an anatomic pathologist that is **not** ACVP board certified?

-



Survey Page 10



Veterinary Pathologist Employer Survey

- 16 Would your organization expect a newly hired anatomic pathologist without ACVP certification to complete certification at some point after being hired?

YES NO

SUBMIT

Survey Page 11



Veterinary Pathologist Employer Survey

- 17 If you have an anatomic pathologist candidate who is ACVP board certified in pathology, how important is it that the person also have a Ph.D.?

- Very important
 Somewhat important
 Not too important
 Not at all important
 Depends upon the position

SUBMIT

Survey Page 12



Veterinary Pathologist Employer Survey

- 18 Since 2002, has the number of anatomic pathologist positions in your organization increased, decreased, or stayed the same?

- Increased
 Decreased
 Stayed the same

SUBMIT

Survey Page 13



Veterinary Pathologist Employer Survey

The next several screens ask about the reasons individual anatomic pathologists may have left or joined your organization **since 2002**. For each reason listed, please indicate the number of individuals affected. The first questions ask about pathologists **leaving** your organization.

Since 2002, how many individual anatomic pathologists have left your organization...

19 Due to retirement?

IF NONE, PLEASE ENTER "0."

20 Due to a merger or reorganization?

IF NONE, PLEASE ENTER "0."

SUBMIT

Survey Page 14



Veterinary Pathologist Employer Survey

Since 2002, how many individual anatomic pathologists have left your organization...

21 Because they switched from **public to private** employment?

By *public employment*, we mean academia, diagnostic laboratory, and government positions. By *private employment*, we mean industry, contract research organization, and private consulting positions.

IF NONE, PLEASE ENTER "0."

22 Because they switched from **private to public** employment?

IF NONE, PLEASE ENTER "0."

23 Who stayed within the same sector (i.e., went from the position at your organization to a position also in the public/private sector)?

IF NONE, PLEASE ENTER "0."



Survey Page 15



**Veterinary
Pathologist Employer
Survey**

Since 2002, how many individual anatomic pathologists have left your organization...

24 Due to some other (known) reason(s)?

IF NONE, PLEASE ENTER "0."

25 What was the reason(s) they left your organization?

IF YOU ENTERED "0" ABOVE, SKIP THIS QUESTION.

26 Because they left the specialty?

IF NONE, PLEASE ENTER "0."

27 For unknown reasons?

IF NONE, PLEASE ENTER "0."



Survey Page 16



Veterinary Pathologist Employer Survey

The next questions ask about pathologists **joining** your organization.

Since 2002, how many individual anatomic pathologists have joined your organization...

28 Due to a merger or reorganization?

IF NONE, PLEASE ENTER "0."

29 Because they switched from **public to private** employment?

IF NONE, PLEASE ENTER "0."

30 Because they switched from **private to public** employment?

IF NONE, PLEASE ENTER "0."



Survey Page 17



Veterinary Pathologist Employer Survey

Since 2002, how many individual anatomic pathologists have joined your organization...

31 Who stayed within the same sector (i.e., whose previous position was also in the public/private sector)?

IF NONE, PLEASE ENTER "0."

32 Due to some other (known) reason(s)?

IF NONE, PLEASE ENTER "0."

33 What was the reason(s) they joined your organization?

IF YOU ENTERED "0" ABOVE, SKIP THIS QUESTION.

34 For unknown reasons?

IF NONE, PLEASE ENTER "0."



Survey Page 18



**Veterinary
Pathologist Employer
Survey**

You are almost done with the questions on anatomic pathologists – thank you for continuing with our survey!

35 Currently, how many anatomic pathologist positions are open at your organization?

IF NONE, PLEASE ENTER "0."

36 What is the average time it takes to fill an anatomic pathologist position in your organization?

- Less than 3 months
- 3–6 months
- 7–12 months
- 13–18 months
- Longer than 18 months

37 How quickly would you **like** to be able to fill an open anatomic pathologist position at your organization?

PLEASE ENTER THE NUMBER OF **MONTHS**.



Survey Page 19



Veterinary Pathologist Employer Survey

The next few questions regard future openings for veterinary anatomic pathologists at your organization. We would like your **best estimate** of the number of anatomic pathologists your organization expects to hire during the time periods specified and how many position openings would be due to retirements during those same periods of time.

38 How many veterinary anatomic pathologists does your organization expect to hire in 2008–2009?

IF NONE, PLEASE ENTER "0."

39 How many of those position openings would be due to retirements?

IF NONE, PLEASE ENTER "0."



Survey Page 20



Veterinary Pathologist Employer Survey

- 40 How many veterinary anatomic pathologists does your organization expect to hire in 2010–2013?

IF NONE, PLEASE ENTER "0."

- 41 How many of those position openings would be due to retirements?

IF NONE, PLEASE ENTER "0."

- 42 What additional skill sets will be required for anatomic pathologist positions in the future that are not required currently by your organization?

PLEASE LIST.



Survey Page 21



Veterinary Pathologist Employer Survey

The following questions refer to employment in your veterinary **clinical** pathologist program. Please check only one box for each question unless otherwise specified.

To download a PDF of this questionnaire for purposes of information gathering, please click [here](#) (opens a new window).

-
- 43 Will you be able to provide information about your organization's current and future employment of veterinary clinical pathologists?

If your organization currently does not and has no plans to hire veterinary clinical pathologists, select "No."

YES NO



Survey Page 22



Veterinary Pathologist Employer Survey

-
- 44 Given the current supply and demand of veterinary clinical pathologists,

- The right number of clinical pathologists are being trained
- Not enough clinical pathologists are being trained
- Too many clinical pathologists are being trained

-
- 45 Is it difficult to recruit qualified clinical pathologists in your organization?

YES NO



Survey Page 23



Veterinary Pathologist Employer Survey

-
- 46 Which of the following reasons make it difficult for your organization to recruit qualified clinical pathology candidates?

PLEASE CHECK ALL THAT APPLY.

- Salary restrictions
- Candidates see job as too demanding
- Candidates see job as not challenging enough
- Lack of job security

- Lack of growth opportunities
- Geographic location of institutions
- Limited number of qualified clinical pathologists available
- Other (PLEASE SPECIFY)



Survey Page 24



Veterinary Pathologist Employer Survey

47 What is the **primary** reason it is difficult for your organization to recruit qualified clinical pathology candidates?

IF YOU CHECKED ONLY ONE REASON IN THE PREVIOUS QUESTION, SELECT "N/A."

- Salary restrictions
- Candidates see job as too demanding
- Candidates see job as not challenging enough
- Lack of job security
- Lack of growth opportunities
- Geographic location of institutions
- Limited number of qualified clinical pathologists available
- N/A
- Other (PLEASE SPECIFY)



Survey Page 25



Veterinary Pathologist Employer Survey

48 During the **last two years**, have there been any open clinical pathology positions at your organization?

YES NO





**Veterinary
Pathologist Employer
Survey**

49 During the last two years, what has been the average number of qualified applicants for each clinical pathology position available at your organization?



**Veterinary
Pathologist Employer
Survey**

50 Compared to **five years ago**, are there currently fewer qualified clinical pathology candidates, about the same number of qualified candidates, or more qualified candidates?

- Fewer candidates
- About the same number
- More candidates

51 Recognizing that different clinical pathology positions may have different requirements, which of the following qualifications are **minimum** requirements for all clinical pathology positions at your organization?

PLEASE CHECK ALL THAT APPLY.

- Residency training
- ACVP board eligibility
- ACVP board certification
- ECVF board certification
- Ph.D.
- Other (PLEASE SPECIFY)





Veterinary Pathologist Employer Survey

52 Would your organization hire a clinical pathologist that is **not** ACVP board certified?

YES

NO

SUBMIT

Survey Page 29



Veterinary Pathologist Employer Survey

53 Would your organization expect a newly hired clinical pathologist without ACVP certification to complete certification at some point after being hired?

YES

NO

SUBMIT

Survey Page 30



Veterinary Pathologist Employer Survey

54 If you have a clinical pathologist candidate who is ACVP board certified in pathology, how important is it that the person also have a Ph.D.?

- Very important
- Somewhat important
- Not too important
- Not at all important
- Depends upon the position

SUBMIT

Survey Page 31



Veterinary Pathologist Employer Survey

- 55 Since 2002, has the number of clinical pathologist positions in your organization increased, decreased, or stayed the same?
- Increased
 - Decreased
 - Stayed about the same



Survey Page 32



Veterinary Pathologist Employer Survey

The next several screens ask about the reasons individual clinical pathologists may have left or joined your organization **since 2002**. For each reason listed, please indicate the number of individuals affected. The first questions ask about pathologists **leaving** your organization.

Since 2002, how many individual clinical pathologists have left your organization...

- 56 Due to retirement?

IF NONE, PLEASE ENTER "0."

- 57 Due to a merger or reorganization?

IF NONE, PLEASE ENTER "0."



Survey Page 33



**Veterinary
Pathologist Employer
Survey**

Since 2002, how many individual clinical pathologists have left your organization...

58 Because they switched from **public to private** employment?

By *public employment*, we mean academia, diagnostic laboratory, and government positions. By *private employment*, we mean industry, contract research organization, and private consulting positions.

IF NONE, PLEASE ENTER "0."

59 Because they switched from **private to public** employment?

IF NONE, PLEASE ENTER "0."

60 Who stayed within the same sector (i.e., went from the position at your organization to a position also in the public/private sector)?

IF NONE, PLEASE ENTER "0."



Survey Page 34



**Veterinary
Pathologist Employer
Survey**

Since 2002, how many individual clinical pathologists have left your organization...

61 Due to some other (known) reason(s)?

IF NONE, PLEASE ENTER "0."

62 What was the reason(s) they left your organization?

IF YOU ENTERED "0" ABOVE, SKIP THIS QUESTION.

63 Because they left the specialty?

IF NONE, PLEASE ENTER "0."

64 For unknown reasons?

IF NONE, PLEASE ENTER "0."



**Veterinary
Pathologist Employer
Survey**

The next questions ask about pathologists **joining** your organization.

Since 2002, how many individual clinical pathologists have joined your organization...

65 Due to a merger or reorganization?

IF NONE, PLEASE ENTER "0."

66 Because they switched from **public to private** employment?

IF NONE, PLEASE ENTER "0."

67 Because they switched from **private to public** employment?

IF NONE, PLEASE ENTER "0."



Survey Page 36



**Veterinary
Pathologist Employer
Survey**

Since 2002, how many individual clinical pathologists have joined your organization...

68 Who stayed within the same sector (i.e., whose previous position was also in the public/private sector)?

IF NONE, PLEASE ENTER "0."

69 Due to some other (known) reason(s)?

IF NONE, PLEASE ENTER "0."

70 What was the reason(s) they joined your organization?

IF YOU ENTERED "0" ABOVE, SKIP THIS QUESTION.

71 For unknown reasons?

IF NONE, PLEASE ENTER "0."



Veterinary Pathologist Employer Survey

You're almost done with the questionnaire. There are only a few more questions about current and future demand for veterinary clinical pathologists.

- 72 Currently, how many clinical pathologist positions are open at your organization?

- 73 What is the average time it takes to fill a clinical pathologist position in your organization?

- Less than 3 months
- 3–6 months
- 7–12 months
- 13–18 months
- Longer than 18 months

- 74 How quickly would you **like** to be able to fill an open clinical pathologist position at your organization?

PLEASE INDICATE THE NUMBER OF **MONTHS**.



Veterinary Pathologist Employer Survey

The next few questions regard future openings for veterinary clinical pathologists at your organization. We would like your **best estimate** of the number of anatomic pathologists your organization expects to hire during the time periods specified and how many position openings would be due to retirements during those same periods of time.

75 How many veterinary clinical pathologists does your organization expect to hire in 2008–2009?

IF NONE, PLEASE ENTER "0."

76 How many of those position openings would be due to retirements?

IF NONE, PLEASE ENTER "0."



Survey Page 39



**Veterinary
Pathologist Employer
Survey**

77 How many veterinary clinical pathologists does your organization expect to hire in 2010–2013?

IF NONE, PLEASE ENTER "0."

78 How many of those position openings would be due to retirements?

IF NONE, PLEASE ENTER "0."

79 What additional skill sets will be required for clinical pathologist positions in the future that are not required currently by your organization?

PLEASE LIST.



**Veterinary
Pathologist Employer
Survey**

80 This is the last item in the questionnaire!

If you have any other comments you would like to share regarding hiring veterinary anatomic or clinical pathologists, please do so here:

Thank you for participating! Click the button below to submit your answers and exit the survey.



Responses to Open-Ended Items

Responses to some of these items discussed more than one topic. In such cases, the response was included in all categories where it seemed to fit. As a result, some responses will appear multiple times for a specific question. Similarly, some respondents used the same response for multiple items, thus that response will appear under more than one question. In some items the respondent included the name of an organization or institution. For such cases, a substitute reference (e.g., [COMPANY] instead of the company name) was used.

Q5b8. Which of the following reasons make it difficult for your organization to recruit qualified anatomic pathology candidates?

Competition

- Competition
- Competition from industry
- Competition from Industry
- Too many competing job offers/opportunities
- False perception of more security at large orgs
- Industry jobs pay better and have more limited/focused demands

Lack of supply of qualified pathologists

- Limited # of pathologists work with NHPrimates
- Limited number of *mouse* pathologists
- Need qualified lab animal pathologists
- Relatively few trained pathologists interested in a primarily service position in which the caseload is predominantly food animals
- Few interested in Food Animal Diagnostics
- We hire folks number one in their vet class
- Too few diagnostic pathologists
- Not enough training in toxicology
- No or single qualified applicants for most recent add

Cost

- Cost of living
- Currently no budgeted FTE.
- High housing costs & not used to medical schools.

Lack of support staff

- Lack of support staff
- Lack of support staff

Other

- [COMPANY] is a one-person consulting practice
- Lack of interest in academic position
- Opportunities for spouses restrictive
- Pathologists do not fit well into tenure structure
- Too many demands on entry-level academic faculty
- We are not a veterinary school.
- WE ARE ONLY HIRING AS 1099, INDEPENDENT CONTRACTOR

Q5c8. What is the primary reason it is difficult for your organization to recruit qualified anatomic pathology candidates?

Lack of supply of qualified pathologists

- Limited number of qualified anatomic pathologists available
- Relatively few trained pathologists interested in a primarily service position in which the caseload is predominantly food animals
- Too few trained diagnostic pathologists
- We hire number ones in their vet school class

Competition

- Qualified lab animal pathologists hard to recruit

Other

- Job too demanding/lack of interest in academia
- Don't know
- [COMPANY] is a one-person consulting practice
- We are not a veterinary school.

Q8.6. Recognizing that different anatomic pathology positions may have different requirements, which of the following qualifications are minimum requirements for all anatomic pathology positions at your organization?

Master's degree

- M.S.
- MS in Pathology
- MVSc
- To gain tenure need to pass boards and/or MS/PhD

PhD preferred

- PhD preferred (2 mentions)
- To gain tenure need to pass boards and/or MS/PhD

Number of years of experience

- 2 years of laboratory experience
- 10 years of industry exp. plus tox training/experience
- 3+ years of pathology experience

Specific experience or knowledge

- Expertise in Tox Path
- Expertise with Zoo and Wildlife species
- Drug development experience
- Knowledge of rodent pathology
- Lab animal training
- Tox pathology experience
- Zoo or wildlife experience
- Zoo Pathology Experience

Board eligibility

- ECVP board eligible
- ECVP or RCPATH board eligibility
- To gain tenure need to pass boards and/or MS/PhD

Other

- Only because PhD with eligibility are not available

Q11b7. The table below lists several reasons individual pathologists may have left or joined your organization since 2002. For each reason listed, please indicate the number of individuals affected. (# of pathologists left)

Retirement

- 1 – Retirement 2 – New opportunity
- Retirement and termination of employment
- Wife was pathologist. Husband retired and they moved away.

Termination

- Retirement and termination of employment
- One was terminated. Two left to become independent contractors.

New opportunity

- 1 – Retirement 2 – New opportunity
- One was terminated. Two left to become independent contractors.
- 1 to relocate, 1 to start own business, 1 due to husband's relocation
- Wanted to return to academia; 1 – dissatisfied with management; 1 – more money at another company

Personal reasons

- family and stress
- family issues
- Family, interested in academia
- 1 to relocate, 1 to start own business, 1 due to husband's relocation

Other

- Deceased
- Lack of academic progress for reappointment
- Money, work schedule, having conflict with some of our clients and wanting to do something different.
- Not top tier
- This is really too confidential....
- Unknown reason left.
- 0
- 0

Q11b15. The table below lists several reasons individual pathologists may have left or joined your organization since 2002. For each reason listed, please indicate the number of individuals affected. (# of pathologists joined)

Recently graduated/Completed training/Completed residency

- New grads
- Recent graduate hired
- Recently graduated PhD and completed residency
- Completed pathology residency
- Completed training & passed ACVP board exam
- Finished a residency & wanted to live in this area.
- First job
- First job after training
- He completed his training and board certification elsewhere and replaced former pathologist.
- Higher salary, good company, tired of academia, closer to home, finished residency training

Quality of life

- Improved quality of life – increased interest in this form of diagnostic pathology
- Life balance (crazy at Universities/D labs – balanced here) \$\$\$
- Change of pace from private to public

Other

- Assistant professor position
- Great opportunity
- Looking for a job in diagnostic veterinary medicine
- More challenging job
- Wanted multispecies training to sit the boards

Q15. What additional skill sets will be required for anatomic pathologist positions in the future that are not required currently by your organization?

Molecular biology/Molecular diagnostic/Molecular pathology

- A better understanding of molecular pathology techniques
- Molecular biology diagnostic techniques
- Molecular biology skills
- Molecular diagnostic skills
- Molecular diagnostic techniques/rapid throughput.
- Molecular pathology
- Molecular pathology/diagnostics expertise
- Molecular, mechanistic pathology
- More epidemiology/population-level disease investigation capability; more experience with molecular diagnostics.
- Knowledge of rodent pathology and molecular diagnostic methods.
- Familiarity with molecular diagnostics
- Greater understanding/expertise & practical ability to perform molecular diagnostics or use/interpret molecular diagnostic information. Continued updating with evolving technology (e.g., digital imaging & digital software applications, improved database understanding, Excel/word processing).
- Morphometrics/statistics experience. Molecular pathology experience

Research experience

- More investigative/research potential; more experience with human risk assessment
- Ability to design and implement state-of-the-art biotechnology-based diagnostic tests and to be able to interpret results of such tests.

Toxicology

- Toxicology
- Toxicology
- Research experience, PhD, tox experience
- Tox path
- No additional skills – basic tox path, histopathology slide reading and reporting. No mechanistic work done at group any longer. Expecting gradual lab closure.
- GLP experience in toxicologic pathology studies

Other

- Anatomic pathologists are not trained in epidemiology infectious disease, disease control, diagnostic testing, strategies for populations of animals. Classical training for anatomic pathology may not be the best fit for a food animal diagnostician as they are overtrained in some areas (cancer pathology) and undertrained in the areas listed above.
- Clinical pathology experience
- Dermatopathology expertise would be nice.

- Drug development experience. Manufacturing, ADME, regulatory, Phase I, problem solving.
- Dual training in anatomic & clinical pathology (not the same as dual certification – would appreciate broader training programs to orient anatomic pathologists more toward biomarkers = clin path). Not new: currently seeking trainees with broad pathology background plus industry experience (not specifically toxicology pathology training).
- Enhanced communication skills (i.e., with the media or other public entities) Ability to apply molecular biology techniques to research problems.
- Expertise in Web-based teaching & learning technology; application of genomics and genomic technology; More sophisticated biopsy-based diagnostic skills
- Knowledge of epidemiology
- More training in: animal model based research, infectious diseases based research.
- None – not mentioned before is diagnostic laboratory experience.
- Not required, but desirable – experience as a clinical large animal vet.
- Our needs are for good solid skills in microscopic tissue evaluation and interpretation.
- Project management skills
- Our pathologist must be skilled in diagnosis of diseases of laboratory animals
- Special training in mouse pathology.
- We always look for candidates from strong investigative pathology programs who have experience in established and emerging investigative technologies/methods.
- Working knowledge of aquaculture species/diseases/production
- Zoo medicine specialty or lab animal medicine specialty
- Impeccable photographic skills
- Skill sets are decreasing as we lower standards to find anyone.
- PhD
- Entrepreneurial interest and ability – income generation.
- Ability to live on a low salary in an expensive area of the country
- Depends on upper organizational management decisions.
- None – except to be current on newest technology
- Open
- NA
- None (12 mentions)
- 0

Q17b8. Which of the following reasons make it difficult for your organization to recruit qualified clinical pathology candidates?

Competition

- Competition from Industry
- Large number of competing opportunities

Cost

- Currently no budgeted FTE

- Difficult to charge for their services

Other

- Perception industry trains their own clinical pathologists

Q17c8. What is the primary reason it is difficult for your organization to recruit qualified clinical pathology candidates?

- Job too demanding/lack of interest in academia

Q20.6. Recognizing that different clinical pathology positions may have different requirements, which of the following qualifications are minimum requirements for all anatomic pathology positions at your organization?

Master's degree

- Graduate degree with research accomplishments

PhD preferred

- PhD preferred

Specific experience or knowledge

- Tox pathology experience

Board eligibility

- Prefer board certification but will look at eligibility

Q23b7. The table below lists several reasons individual pathologists may have left or joined your organization since 2002. For each reason listed, please indicate the number of individuals affected. (# of pathologists left)

New opportunity

- Better opportunity

Other

- Assumed administrative responsibilities.
- Private to private

- Wage, wanted to do something different, wanted to move to a different area, didn't want to have to do as many cases per day, and didn't want to use voice recognition software.

Q23b15. The table below lists several reasons individual pathologists may have left or joined your organization since 2002. For each reason listed, please indicate the number of individuals affected. (# of pathologists joined)

Completed residency

- Completed Residency
- Completed residency program
- Finished a residency and wanted to work for an independent diagnostic lab, i.e., not [NAMES OF SPECIFIC EMPLOYERS].

Other

- Private to private
- Reputation of program.
- Wanted an academic institution with primarily diagnostic and teaching responsibilities in the northeastern U.S.

Q27. What additional skill sets will be required for clinical pathologist positions in the future that are not required currently by your organization?

Molecular biology/Molecular diagnostic/Molecular pathology

- Molecular biology skills. Able to compete for extramural research grants
- Molecular diagnostic training
- Molecular pathology. Biomarker assay development and validation. Comparative pathology including experience in anatomic pathology. Internal medicine/mechanisms of disease.

“Soft” skills

- Communication skills (i.e., with public entities or with the media). Molecular and cellular biology skills that can be applied to research problems, Computer network skills
- Customer interaction skills
- Publication skills for some current staff positions
- Research experience and potential

Specific technology

- Changes as technology changes. Can't predict what specific new skills will be involved. i.e., recently, diagnostic flow cytometry has become essential.
- Require increasing sophistication with computer software, digital imaging
- Voice recognition software

Other

- Anatomical training
- Experience in understanding and evaluating tox path studies
- Familiarity in Web-based teaching & learning techniques; expertise in more sophisticated biopsy diagnostic techniques; understanding and awareness of GLP practices
- Immunopathology Biomarkers
- Involved in translational medicine.
- Special training in mouse pathology.
- NA
- None (5 mentions)

Q28. Other comments (regarding future demand for veterinary clinical pathologists)

Competition

- For small consulting organizations like myself, the scarcity of veterinary pathologists means that most will take the highest paying job in industry or start their own consulting firm rather than work for some else. I have previously tried to hire anatomic pathologists but could not compete with big pharmaceutical companies.
- Our situation is unique, as we train veterinary pathologists needed to fill positions only within the [ORGANIZATION]. We have seldom had a recruiting problem historically and do not anticipate such in the near future. However, retention of trained pathologists is a bit more challenging and will only get more difficult as the disparity between U.S. government salaries and the private sector opportunities widens.
- [COMPANY] currently has 15+ laboratories in the U.S. as well as many labs internationally ([LIST OF OTHER COUNTRIES]). My answers are mostly directed at our limited needs on the U.S. west coast. Our strongest challenge now is regional preferences and cost differentials. Hiring goes through a central recruiting department and applicants have choices to work in many labs besides just ours. We typically end up hiring people just coming out of residency programs before they have had a chance to take board exams. We have relatively few applicants from academia or pharmaceutical industry.
- When one looks at the number of positions currently open & the number of head hunters that call us every month with other openings, we are lucky to have any pathologists in our institution. We often only attract individuals who have other reasons for living in our area (spouse job, family, cultural reasons, etc.). As we train both anatomic & clinical pathologists, we worry that if more faculty and staff leave for private diagnostic labs, industry, or retirement, we will have no one left to train our residents. We need financial help for both faculty retention & resident training.
- Veterinary students tend to be older and less interested in training required for academic careers. Competitiveness of research turns off many pathology trainees.

Need more supply of qualified pathologists

- Good pathologists are difficult to find!
- We need a good supply of anatomic and clinical pathologists that can effectively teach and perform excellent diagnostic procedures. Others

will need good research training in these disciplines.

- I would love to hire a clinical pathologist in a research position, but due to shortage of them and lack of research training, I don't think I can fund a position.
- The AAVLD plans to do a very similar kind of survey (I have been remiss) of shortages in the field of veterinary diagnostic medicine. Our biggest shortage is in TRAINED veterinary diagnostic pathologists, and to a lesser extent in other disciplines. The fix in my opinion is that more training positions need to be located in diagnostic laboratories, including (perhaps "particularly") those d-laboratories that have no affiliation with a veterinary school. I say particularly because the nonveterinary school, AAVLD-accredited laboratories should have the capability to produce focused diagnosticians. Last point: we've had several failed searches recently and have gone from requiring PhD + board-certification (ACVP or ECVP) to board-certification to (most reluctantly) to board-eligible. This has come about in the last 5-7 years.

Need more training/trained staff

- Desperately need trained personnel in the pipeline, need academia to pay higher salaries or something to compensate for industry's salaries. At some point if we can experience growth we would like to hire a clinical pathologist since we are not in [LOCATION].
- For both anatomic & clinical pathologists, it is very difficult to find qualified individuals who can develop an independent research program in addition to either teaching or service. Even pathologists with a PhD often lack the training (no postdoc) to compete successfully for grants; they also often lack the desire to compete for grants.
- Hiring/retaining either anatomic or clinical pathologists is extremely challenging in today's environment. Training programs, particularly for clinical pathologists are desperately needed. There needs to be more emphasis on residencies and board certification rather than PhDs followed by certification. In addition, more information on the wide spectrum of jobs available in pathology (not just academia and diagnostic laboratories) needs to be given to vet students and residents by organizations such as the ACVP and the STP.
- Our company is funding 6 ACVP-STP coalition training positions. We also have a summer

veterinary student internship program & for all 4 years of this program, all vet students have chosen to pursue pathology careers as a result. We also fund a PhD Fellowship & one postdoc position (not a pathologist in the postdoc). We would like to see other companies step up to the training position gaps & would like to see more solidified training relationships between pharma & academia – e.g., pathology externships for residents to go to Pharma for 3–6 months of their training.

- We would like to see harmonization with the ECVF. Also we would like to see training/residency time requirements reduced.

Need pathologists with broader skill sets

- A dual-purpose pathologist – clinical and anatomic pathologists better fits our needs.
- The successful veterinary pathologist needs to have a broad background and needs to be flexible to provide research, training, and/or service. Many pathologists seem to focus on a specialty; however, the demonstrated capabilities of good pathologists are that they can seek answers and help resolve issues without being a specialist in each and every area.

Need better market information and marketing of occupation

- I believe pathologists need to do a better job of selling themselves as members of the team. Too often, their contributions are undersold, but equally often, pathologists present themselves in a defensive arrogant posture. We need to educate other scientists, not turn them off.
- Many larger pharmaceutical industries require a PhD degree in addition to DACVP certification. While a PhD degree is extremely useful in a research-oriented environment, it is often unnecessary in many pathology positions (i.e., regulatory toxicology, preclinical development). These companies often naively believe that a PhD is a must, when, in fact, what they really seek in a candidate is their unique, specialized pathology skills. Therefore, we should educate the pharmaceutical industry leaders to recognize the value of our professional skills independent of additional training, such as a PhD. Thank you for seeking to improve our professional impact through meaningful dialog and direct feedback, such as this survey.
- Information on salary ranges and current expectations for job environment would be helpful. Also, tables showing numbers of

pathologists coming into and leaving the workforce would be helpful for decisions with management.

Cost is an issue

- The institution would like to be able to hire further pathologists, but the budget is currently not able to provide for further employees. Whether I look at it as job security or being completely overwhelmed, there would definitely be room for other pathologists on staff.
- The biggest problems I face are convincing executives that we need more pathologists, and being able to hire qualified pathologists given the high cost of living in [LOCATION].
- We are state government, and as such are extremely restricted in salary flexibility. The tight supply of board certified pathologists prices them out of our state allowable range.
- I tried to use the most recent ACVP salary survey to convince my HR office to raise the salary for anatomic pathologists. When there is limited opportunity for making a point, it would be helpful to have the information in the format used years ago. The HR folks had trouble grasping the use of median salary.
- Salary, status, and growth opportunities are most important!!

Not able to assess future

- You asked a lot of questions about future hiring expectations. I don't anticipate hiring anyone if I am able to retain my current staff of 6.5 anatomic pathologists & 3 clinical pathologists. If faculty left for other positions I would be attempting to replace these people. Lacking a crystal ball I can't really give future estimates of how many hires I anticipate.

No plans to hire/replace in the future

- My company has had at least one veterinary pathologist on staff since around 1982. Sad to say, but when I leave next year the current management does not see the value in replacing me with a veterinary pathologist of any kind. I will likely be replaced by a much less expensive food toxicologist. (And then when they get into trouble that the current staff cannot handle, they will go to consultants).
- Not likely to hire a veterinary pathologist when current incumbent retires, but will rely upon service specialist at the local veterinary college.
- Our Institute is a not-for-profit CRO-academic hybrid. Pathology is currently overcommitted, but management is not committed toward alleviating

the workload, and subsequently there are no plans to hire new pathologists. Outsourcing pathology may become more of an option.

Other

- Scientific writing skills are important in academic positions. That is why the MS and/or PhD degree are very helpful, besides the obvious experience gained and research skills developed during graduate training.
- [Our company] is and will remain a one-person consulting practice for experimental pathology
- None available
- WE ARE A SMALL INDEPENDENT DIAGNOSTIC LAB SO OUR SITUATION IS NOT TYPICAL AND IS VARIABLE FROM MONTH TO MONTH.
- There could be retirements in the next 5 years but this is not being planned at this time.
- A bigger national need for vet diagnostic labs are directors.
- Anatomic pathologists willing to enter an academic environment and put up with the institutionalized requirements for tenure are becoming rare. Academic central administration is blind to what pathologists can do for their institutions.
- As of October 2007, we have all of our pathology positions filled for the first time in approximately 10 years.
- Clinical pathology hires in future would be due to relocation vacancies and not again in positions
- We hope to open Veterinary Anatomic Pathologist/Faculty Position in FY10 – this would be the first such position at [our organization].
- We plan to perhaps hire a clinical pathologist for a new teaching program but have no experience to answer the questions regarding recruitment in that area.
- I find it shameful that the College of Veterinary Pathologists is so exclusive & bases its exam off of maximal competency rather than minimal competency requirements. Ask any pathologist & they will tell you they knew more taking that exam than any other time thus maximal competency. In research & lab animal medicine, we have MDs doing the work that veterinary pathologists should be doing. We need to be getting more people into the realm of Lab Animal & reduce the focus (of some institutions) on wildlife & zoo pathology. I know many a great pathologists that never took or refused to take again the ACVP exam due to its ridiculous nature. Bitterness seems to follow that exam, even for people that passed it.
- In the diagnostic lab would we seem to trade pathologists around – but we are also in need of microbiologists, urologist, toxicologists, and parasitologists.
- None of our trainees aspires to be an academic. Too much [bullsh**], too many regulations, can't do animal research, too much trouble to be a researcher these days.
- The ability to design and critically evaluate scientific data is key to our biotech industry. The current ACVP stresses diagnostic pathology. This is good for tissue evaluation but because the ability to further investigate mechanisms is not as critical to the ACVP it (in my opinion) limits the scope of the pathologist in this setting. Subspecialties, without comprehensive diagnostic abilities for all animals, should be considered. It would not limit, but would expand, the role of the pathologist in an organization.
- The boarded veterinary pathologist is able to contribute immediately upon entering industry from the private sector. This is the only skill set in the drug safety arena that are able to do this. Most skill sets require considerable on the job training before they can contribute.
- We are campaigning for clinical associate positions in both clinical & anatomic pathology. These individuals would assist with diagnostic duty & clinical teaching. We suspect there would be a larger pool from which to choose as the PhD would not be required. We train many such professionals & most of them go into private labs.