



Survey Research Laboratory

A Unit of the College of Urban Planning and Public Affairs



VETERINARY PATHOLOGIST EMPLOYER DEMOGRAPHIC SURVEY: ADDENDUM

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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The purpose of this addendum is to provide detailed information regarding current employment of and demand for veterinary pathologists by employment sector. In addition, this addendum provides information on the anticipated number of job openings and openings due to retirement by employment sector. The four employment sectors are industry (corporate), academia (ACAD), diagnostic labs (DIAG), and zoo and lab animal programs (ZLA).

Distribution of responding institutions by stratum

As Exhibit A1 shows, of the 141 organizations that returned a questionnaire, the largest percentage is in the corporate stratum (39%). Diagnostic labs make up the next largest group (26.2%), with academia and zoo and lab animal programs accounting for nearly equal numbers (17.7% and 17.0% respectively).

Exhibit A1. Distribution of Responding Institutions, by Stratum

TYPE	Number	Percent
Corporate	55	39.0%
ACAD	25	17.7
DIAG	37	26.2
ZLA	24	17.0
TOTAL	141	100.0%

Current employment of veterinary pathologists

Anatomic Pathologists

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. For this addendum, the responses are presented by stratum. Exhibits A2a and A2b summarize the responses by stratum. Of the 133 institutions that provided information on the number of anatomic pathologists employed, nearly all of them (94.3% overall) employ them, although the percentages vary somewhat by stratum. At the upper end, all of the diagnostic labs employ anatomic pathologists. At the lower end, 87.5% of zoo and lab animal programs employ them. The corporate sector employs the greatest number ($n = 404$), while zoo and animal lab programs employ the fewest ($n = 75$). Academia employs the highest average number of anatomic pathologists (8.6), followed by corporations (7.8), diagnostic labs (4.7), and, finally, zoo and lab animal programs (3.6).

Clinical Pathologists

As Exhibit A2b shows, fewer institutions employ clinical pathologists. Overall, 52.6% of institutions hire them. Nearly all academic institutions hire clinical pathologists (84%), while only 20.5% of zoo and lab animal programs do so.

Exhibit A2a. Anatomic Pathologist Employment, by Stratum

STRATUM	<i>n</i>	% Employing Pathologists	Total # Pathologists Employed*	Average # Pathologists Employed*	Range of Pathologists Employed*
Corporate	55	94.5%	404	7.8	13–70
ACAD	25	92.0	197	8.6	3–20
DIAG	37	100.0	174	4.7	1–17
ZLA	24	87.5	75	3.6	1–12
TOTAL	133	94.3%	850	6.4	1–70

*Among institutions employing any anatomic pathologists.

Exhibit A2b. Clinical Pathologist Employment, by Stratum

STRATUM	<i>n</i>	% Employing Pathologists	Total # Pathologists Employed*	Average # Pathologists Employed*	Range of Pathologists Employed*
Corporate	23	41.8%	81	3.5	1–27
ACAD	21	84.0	73	3.5	2–6
DIAG	11	29.7	20	1.8	1–4
ZLA	5	20.8	17	3.4	1–5
TOTAL	60	52.6%	191	3.2	1–27

*Among institutions employing *any* clinical pathologists.

The greatest number of clinical pathologists employed are working in the corporate sector ($n = 81$), followed closely by academia ($n = 73$). Diagnostic labs and zoo and lab animal programs employ relatively few ($n = 20$ and $n = 17$, respectively). On average, however, corporations, academia, and zoo and animal lab programs hire about the same number (3.5, 3.5, and 3.4, respectively).

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.¹ Exhibits A3a through A3d display 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 and stratum.

Note that the total number of positions and the total number of retirements are sums of the numbers provided by respondents for each year and each type of position; therefore, they are highly dependent on the number of respondents that completed a questionnaire. Thus, these numbers are meant to be instructive only. Naturally, they fluctuate quite a bit as the number of respondents decreases and should be viewed 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 categories of institution size – 0, 1–5, 6–10, and 11 or more. Details about the nonresponse weights are given in Exhibit 4d at the end of this document.

As indicated in the exhibits, respondents to both the anatomic and clinical pathology portions of the questionnaire were more likely to anticipate having any openings in 2010–2013 than in 2008–2009.

In the academic and diagnostic lab strata, the percent of institutions with anticipated openings varies little from 2008–2009 to 2010–2013. Among academic respondents, 81.8% of institutions expect to have

¹ 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.

**Exhibit A3a. Anticipated Total Number* of Pathology Job Openings
& the Subset Due to Retirements, by Type of Position: Corporate**

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	42	69.0	2.7	79	21	47.6	2.3	23
2010–2013	43	79.1	2.5	84	20	75.0	1.7	26
<i>Weighted for nonresponse</i>								
2008–2009	40	62.5	2.4	59	17	47.1	2.1	16
2010–2013	39	76.9	2.2	65	17	70.6	1.6	19
Openings due to retirements in...	<i>n</i>	% with any due to retirements	Avg # due to retirements	Total # of retirements	<i>n</i>	% with any due to retirements	Avg # due to retirements	Total # of retirements
2008–2009	38	31.6	1.7	20	16	12.5	1.0	2
2010–2013	43	51.2	1.9	42	17	29.4	1.2	6
<i>Weighted for nonresponse</i>								
2008–2009	34	29.4	1.6	16	13	7.7	1.0	1
2010–2013	40	45.0	1.7	32	14	28.6	1.2	5

*Average number of positions is the average among those reporting **any** open positions.

openings in 2008–2009, while 85.7% expect to have openings in 2010–2013. Among diagnostic labs, 78.3% forecast open positions in 2008–2009, while 79.3% expect to do so in 2010–2013.

In the corporate and zoo and lab animal strata, the differences between 2008–2009 and 2010–2013 are greater. Among corporations, 69% expect to have openings in 2008–2009, compared to 79.1% in 2010–2013. Among zoo and lab animal programs, 40% expect to have openings in 2008–2009. This percentage is expected to increase to 65% by 2010–2013.

The percent of openings among anatomic pathology positions due to retirement is higher for 2010–2013 than 2008–2009 for all strata. Among corporate institutions, 31.6% of openings in 2008–2009 will be due to retirement, compared to 51.2% in 2010–2013. With regard to academia, 42.9% of open positions will be due to retirement in 2008–2009, compared to 63.6% in 2010–2013. Among diagnostic labs, 27.6% of openings in 2008–2009 will be due to retirement, compared to 60% in 2010–2013. Zoo and lab animal programs expect the lowest percentage of openings due to retirement – 15% in 2008–2009 and 30% in 2010–2013.

The pattern of openings and openings due to retirement is the same for the weighted data as for the unweighted data (e.g., if the unweighted data show more openings in 2008–2009, so do the weighted data). However, in some strata, the numbers and percentages differ somewhat. For example, in the corporate sector, the unweighted data show that 69% of institutions will have openings in 2008–2009. When the data are weighted, that estimate drops to 62.5%. The unweighted data show 79.1% of corporations will have openings in 2010–2013, while the weighted data show 76.9%. In the zoo and lab animal stratum, the unweighted data show that 40% of institutions will have openings in 2008–2009, while the weighted data suggest only 16.6% will; the unweighted percentage of institutions with openings in 2010–2013 is 65%, compared to a weighted figure of 77.8%.

**Exhibit A3b. Anticipated Total Number* of Pathology Job Openings
& the Subset Due to Retirements, by Type of Position: Academia**

	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
Openings in...								
2008–2009	22	81.8	1.7	30	14	42.9	1.3	8
2010–2013	21	85.7	2.2	39	15	86.7	1.3	17
<i>Weighted for nonresponse</i>								
2008–2009	16	81.3	1.7	21	9	44.4	1.3	5
2010–2013	14	85.7	2.2	26	10	90.0	1.3	11
Openings due to retirements in...								
	<i>n</i>	% with any due to retirements	Avg # due to retirements	Total # of retirements	<i>n</i>	% with any due to retirements	Avg # due to retirements	Total # of retirements
2008–2009	21	42.9	1.7	15	12	16.6	1.0	2
2010–2013	22	63.6	2.4	33	14	78.6	1.2	13
<i>Weighted for nonresponse</i>								
2008–2009	14	42.9	1.7	11	8	12.5	1.0	1
2010–2013	16	56.3	2.3	22	9	77.8	1.2	9

*Average number of positions is the average among those reporting **any** open positions.

As with the anatomic pathology openings, the percent of institutions with clinical pathology openings is higher for 2010–2013 than 2008–2009 for all strata. In the corporate stratum, 47.6% of institutions expect to have openings in 2008–2009, while 75% forecast openings for 2010–2013. In academia, the percent of institutions with openings is expected to more than double, from 42.9% for 2008–2009 to 86.7% for 2010–2013. Diagnostic labs also expect an increase in open positions, with 22.2% expecting them in 2008–2009, compared to 37.5% in 2010–2013. For zoo and lab animal programs, the percent expecting open positions increases from 16.6% for 2008–2009 to 25.0% for 2010–2013.

**Exhibit A3c. Anticipated Total Number* of Pathology Job Openings
& the Subset Due to Retirements, by Type of Position: Diagnostic Labs**

	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
Openings in...								
2008–2009	33	78.8	1.5	40	9	22.2	1.0	2
2010–2013	29	79.3	1.8	42	8	37.5	1.3	4
<i>Weighted for nonresponse</i>								
2008–2009	31	77.4	1.5	36	7	14.3	1.0	1
2010–2013	26	76.9	1.8	36	6	33.3	1.3	3
Openings due to retirements in...								
	<i>n</i>	% with any due to retirements	Avg # due to retirements	Total # of retirements	<i>n</i>	% with any due to retirements	Avg # due to retirements	Total # of retirements
2008–2009	29	27.6	1.0	8	7	14.3	1.0	1
2010–2013	30	60.0	1.7	30	6	33.3	1.0	2
<i>Weighted for nonresponse</i>								
2008–2009	26	26.9	1.0	7	6	16.6	1.0	1
2010–2013	28	57.1	1.6	25	4	25.0	1.0	1

*Average number of positions is the average among those reporting **any** open positions.

**Exhibit A3d. Anticipated Total Number* of Pathology Job Openings
& the Subset Due to Retirements, by Type of Position: Zoos & Lab Animal Programs**

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	20	40.0	1.6	13	6	16.6	1.0	1
2010–2013	20	65.0	1.4	18	4	25.0	1.0	1
<i>Weighted for nonresponse</i>								
2008–2009	36	16.6	1.8	11	13	7.8	1.0	1
2010–2013	36	77.8	1.1	32	12	8.3	1.0	1
Openings due to retirements in...	% with any due to retirements				% with any due to retirements			
	<i>n</i>	% with any due to retirements	Avg # due to retirements	Total # of retirements	<i>n</i>	% with any due to retirements	Avg # due to retirements	Total # of retirements
2008–2009	20	15.0	1.3	4	5	20.0	1.0	1
2010–2013	20	30.0	1.7	10	6	16.6	1.0	1
<i>Weighted for nonresponse</i>								
2008–2009	36	8.3	1.0	3	13	7.8	1.0	1
2010–2013	35	14.3	1.5	8	13	7.7	1.0	1

*Average number of positions is the average among those reporting **any** open positions.

The percent of open positions due to retirement also increases from 2008–2009 to 2010–2013 for three of the four strata. In 2008–2009, 12.5% of openings in corporate institutions will be due to retirement, compared to 29.4% in 2010–2013. In academia, only 16.6% of 2008–2009 openings will be due to retirement, while 78.6% will in 2010–2013. Among diagnostic labs, the percent of openings increases from 14.3% for 2008–2009 to 33.3% for 2010–2013. The only decline in the percent of openings due to retirement is in the zoo and lab animal program stratum, where 20% in 2008–2009 are due to retirement, compared to 16.6% in 2010–2013.

With respect to clinical pathologists, the differences between the weighted and unweighted data vary from stratum to stratum. In the corporate stratum, there is little difference in the weighted and unweighted estimates with respect to the percent with openings and the average number of open positions. However, the number of institutions and the total number of positions decrease slightly. In academia, the same pattern holds. The difference between the unweighted and weighted estimates is somewhat greater among diagnostic labs. The unweighted data suggest that 22.2% of institutions will have openings in 2008–2009, while for the weighted data that percentage drops to 14.3%. Among zoo and animal lab programs, the unweighted data show 16.6% of institutions will have openings in 2008–2009. When the data are weighted, that estimate drops to 7.8%.

When looking at the estimates by stratum, especially for clinical pathology openings, the number of responding institutions is often small – in some cases, fewer than 10 respondents. Thus, the estimates should be interpreted cautiously.

Nonresponse weights

As a result of nonresponse in the employer stratum, some of the estimates in the body of the report may be low, particularly statistics such as 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 A4.

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 in Exhibit A4. These weights indicate that smaller institutions had lower response rates and thus higher nonresponse and larger weights. Therefore, if any of the estimates presented in the report vary by the size of the institution, the unweighted estimates will be influenced more heavily by larger institutions. However, when the weights are applied, smaller institutions will have a larger influence because they have larger weights.

Exhibit A4. Response Rates and Nonresponse Weights, by Institution Size

Institution Size: Total # Pathologists Employed	# Respondents	# Nonrespondents	Total	Response Rate	Nonresponse Weight	Final Weight
0	2	26	28	7.1%	14.00	8.90
1–5	75	51	126	59.5%	1.68	1.10
6–10	27	11	38	71.1%	1.41	0.90
11 or more	34	4	38	89.5%	1.12	0.71