

**2019 Resident Salaries Offered through the VIRMP
Association of American Veterinary Medical Colleges
May, 2019**

Introduction

According to the annual Senior Surveys conducted by the American Veterinary Medical Association (AVMA) 34% percent of 2017 graduates pursued additional training by internship (Bain, Salois, Ouedraogo, Hanson & Dutton, 2018). Recent graduates report receiving additional hands on training and mentoring, as well as seeking specialized experience as reasons for pursuing an internship or residency. A smaller number of these professionals go on to pursue residency training with the goal of earning additional degrees and/or board certification.

Historically, post-DVM training programs have paid salaries far lower than the national average for recent graduates. In 2018, AVMA reported new graduate veterinarians earned an average annual salary of \$76,633 (Larkin, 2018). In 2018, the Association of American Veterinary Medical Colleges (AAVMC) reported an average salary of \$35,021 for first year residents in training programs in the United States (Greenhill & Young, 2018).

In an effort to broaden the profession's understanding of trainee salaries, the AAVMC has partnered with the American Association of Veterinary Clinicians (AAVC) to study the full complement of residencies and internships offered through a matching program. This publication focuses exclusively on first year salaries for residency programs in the United States.

Methodology

The American Association of Veterinary Clinicians (AAVC) sponsors the annual Veterinary Internship and Residency Matching Program (VIRMP). The purpose of the program is to "expedite the selection of interns and residencies for participating veterinary colleges and private veterinary practices." (AAVC, 2018). The VIRMP allows academic institutions and private practices to submit training positions to be filled and applicants to submit their applications and rankings to the VIRMP. Program coordinators review the applications and rank the applicants. Proprietary software used by the VIRMP determines the best matches based on the rankings and notifies the applicants and the program coordinators.

This process begins annually in September of each year when the training program coordinators from individual residency and internship training programs enter their program information into the matching program's website (www.virmp.org). Program coordinators enter detailed information about the positions being offered; the salary being offered is entered as a free-text field.

In the spring of 2019, this data was provided to AAVMC for analysis. Prior to analysis, all free text entered salary information was standardized using US currency formatting. Residency position offerings were sorted by clinical

and non-clinical types; clinical positions were again sorted by practice area. The position entry data included the state location and the name of the institution or practice offering each position. These data were organized using regional variables and a descriptive variable indicating whether the practice was located at an academic institution or a private practice.

Descriptive and ANOVA analyses were conducted using SPSS 22.

Definitions

There are two kinds of residents, non-clinical and clinical residents. Non-Clinical residents are defined as individuals involved in basic science training programs. Clinical residents are defined as individuals involved in a three year advanced training program in a specialty area in veterinary medicine. This training may or may not lead to a specialty board certification and may or may not be embedded within a graduate program.

Clinical interns are defined as individuals participating in a one year rotating or specialty clinical training program in veterinary medicine. The internship provides practical experience in applying knowledge gained during formal professional education and offers the opportunity for recent graduates to obtain additional training.

Summary of Findings for Resident Positions Filled through the Match Program

The number of first year residency positions offered in the United States through the VIRMP for the 2019-2020 training year was 402, which represented a 14.2% increase in the number of positions offered over the previous cycle. Positions were offered in two categories: academic institutions and private practices. A total of 73 entities offered positions for the 2019-2020 training year. Academic institutions continue to offer the bulk of residency training positions; institutions offered 342 or 85.1% of positions offered at 46 sites.

For all listed resident positions, the average starting salary was \$35,807 or 2.2% higher than the salary offered in 2018. The increase also represented a larger increase than the Consumer Price Index (CPI) (1.5%) for the period April 2018 to March 2019 (Bureau of Labor and Statistics, 2019). There was also a statistical difference between positions offered in academic or private settings, with privately offered residency applicants being offered \$39,006 and academically offered residency applicants being offered \$35,246 or 10.7% less ($p < .000$). Salaries among privately offered positions appear to be rising more rapidly than those offered within academic institutions; in 2018, the salary difference between private and academic offerings was 7.2% or 3.5% less than the differential found in this year's data.

Resident positions listed through the matching program were most often located in the South (34.8%) and Midwest (25.4%). Although only 16.9% of residents are expected to train in the Western region this year, that region continues to offer the highest starting salary of all listed resident positions at \$40,778, which is \$4,971 more than the national average. This statistically significant difference ($p = .000$) is likely attributable to differences in the cost of living, including housing, across regions. For example, as of May 8, 2018, residents training in Davis, California will need \$1,311 more in salary to maintain a comparable standard of living as residents training in Athens, Georgia (Numbeo.com, 2019). A breakdown of average salary by region can be found in Table 1.

Table 1:
Average Salary Offered for Resident Positions by Region

Region	Percentage of Positions Listed	Mean Salary	Median Salary
Midwest	25.4%	\$33,624	\$31,000
Northeast	22.9%	\$37,015	\$36,118
South	34.8%	\$34,190	\$32,000
West	16.9%	\$40,779	\$43,482
Total	100.0%	\$35,807	\$34,315

Residency match offerings were sorted into categories associated with specialty areas (Table 2).

Table 2:
Average Resident Salary Offered by Practice Type

Area of Practice	Number of Positions Listed	Percentage of Positions Listed	Mean Salary	Median Salary
Anesthesia	15	3.7%	\$33,709	\$34,315
Behavior	2	.5%	\$35,000	\$35,000
Cardiology	15	3.7%	\$32,384	\$31,000
Clinical Nutrition	3	.7%	\$32,994	\$28,000
Dentistry	4	1.0%	\$35,196	\$33,750
Dermatology	5	1.2%	\$37,028	\$37,000
Diagnostic Imagine and Radiology	24	6.0%	\$32,769	\$31,996
Emergency Medicine/Critical Care	61	15.2%	\$37,147	\$35,000
Equine Medicine	9	2.2%	\$36,488	\$35,000
Equine Surgery	10	2.5%	\$31,409	\$30,775
Exotic/Wildlife/Zoo	4	1.0%	\$35,696	\$34,750
Food Animal Medicine & Surgery	5	1.2%	\$34,828	\$34,157
Herd Medicine/Agricultural Practices/Herd Production	5	1.2%	\$34,596	\$37,000
Laboratory Medicine/Comparative Medicine	45	11.2%	\$47,853	\$48,432
Large Animal Medicine	20	5.0%	\$33,613	\$32,650
Large Animal Surgery	11	2.7%	\$33,768	\$34,500
Neurology/Neurosurgery	19	4.7%	\$35,476	\$35,000
Oncology	20	5.0%	\$33,343	\$31,932
Radiation Oncology/Therapy	9	2.2%	\$32,030	\$31,000
Small Animal Medicine	51	12.7%	\$33,526	\$31,364
Small Animal Surgery	46	11.4%	\$33,775	\$32,750
Sports Medicine & Rehabilitation	3	.7%	\$35,000	\$37,000
Theriogenology	9	2.2%	\$32,744	\$32,000

Zoological Medicine	7	1.7%	\$33,429	\$31,364
Total	402	100.0%	\$35,807	\$34,315

Although salaries within the sample ranged from \$31,409 per year up to \$47,853 year, average salary offers across practice areas largely clustered in the low \$30,000 range. Positions for clinical trainees in Emergency Medicine/Critical Care comprised the single largest group of positions listed (15.2%). Although most salary offers were fairly close to the mean, statistically significant differences were found across practice areas (p=.000). These differences may well be mitigated by the very small sample sizes within each practice category.

Non-clinical Residency Training

It is important to differentiate between clinical and non-clinical trainees as the salary offers differ significantly.

Trainees pursuing non-clinical residencies in Laboratory Medicine/Comparative Medicine were offered significantly more than their clinical resident counterparts participating in the matching program (p = .000). Applicants to these non-clinical programs were offered positions with an average starting salary of \$47,219 while applicants to clinical residency programs were offered \$34,149 or 38.3% less in salary. It should be noted that the total number of positions listed for laboratory animal medicine comprised 12.7% of all positions listed in the VIRMP for the year reviewed.

Academic Residency Offerings

As noted earlier, academic institutions offered 342 residency positions in the match for the 2019-2020 employment year. The mean salary positions offered was \$35,807, with a salary range of \$32,994 to \$47,853. The largest percentage of positions could be found in the South (33.1%) and Midwest regions (23.9%). Salaries in the Northeast and West were significantly higher than in other regions (P=.000). Table 3 provides salary averages for academic residency positions by region, while Table 4 provides salary averages by state where academic residency opportunities are offered.

Table 3:
Average Salary Offered for Academic Residency Positions by Region

Region	Percentage of Positions Listed	Mean Salary	Median Salary
Midwest	23.9%	\$33,038	\$31,000
Northeast	14.9%	\$37,767	\$36,118
South	33.1%	\$34,100	\$32,000
West	13.2%	\$39,269	\$43,482
Total	85.1%	\$35,246	\$34,157

Table 4:
Average Salary Offered for Academic Residency Positions by State

State	Mean	Median
Alabama	\$31,350	\$31,350
California	\$45,002	\$43,482
Colorado	\$33,000	\$32,500
Connecticut	\$52,000	\$52,000
Florida	\$37,000	\$37,000
Georgia	\$34,939	\$31,364
Illinois	\$35,093	\$30,767
Indiana	\$31,000	\$31,000
Iowa	\$29,000	\$29,000
Kansas	\$34,157	\$34,157
Louisiana	\$33,971	\$30,375
Maryland	\$48,432	\$48,432
Massachusetts	\$37,567	\$36,118
Michigan	\$38,550	\$34,315
Minnesota	\$34,273	\$31,000
Mississippi	\$30,367	\$30,400
Missouri	\$30,490	\$27,500
New York	\$40,714	\$36,500
North Carolina	\$35,000	\$35,000
Ohio	\$35,892	\$35,000
Oklahoma	\$29,000	\$29,000
Oregon	\$36,641	\$33,300
Pennsylvania	\$34,862	\$31,000
Tennessee	\$30,409	\$28,000
Texas	\$32,437	\$30,176
Virginia	\$37,875	\$35,844
Washington	\$31,887	\$29,772
Wisconsin	\$29,800	\$29,800
Total	\$35,246	\$34,157

Table 5 shows the mean residency salary offerings by practice area. Positions in laboratory animal/comparative medicine comprised the largest single group of offerings by positions (11.2%), and these positions offered a higher salary than others offered across practice area. Most salaries offered were clustered close to \$32,000.

Table 5:

Average Salary Offered for Academic Residency Positions by Practice Area

Practice Area	% of Positions	Mean	Median
Anesthesia	3.7%	\$33,709	\$34,315
Behavior	.5%	\$35,000	\$35,000
Cardiology	3.0%	\$31,500	\$30,884
Clinical Nutrition	.7%	\$32,994	\$28,000
Dentistry	1.0%	\$35,196	\$33,750
Dermatology	1.2%	\$37,028	\$37,000
Diagnostic Imagine and Radiology	5.5%	\$33,088	\$32,650
Emergency Medicine/Critical Care	8.2%	\$33,136	\$31,364
Equine Surgery	2.2%	\$36,488	\$35,000
Equine Medicine	2.5%	\$31,409	\$30,775
Exotic/Wildlife/Zoo	.7%	\$36,761	\$37,000
Food Animal Medicine & Surgery	1.2%	\$34,828	\$34,157
Herd Medicine/Agricultural Practices/Herd Production	1.2%	\$34,596	\$37,000
Laboratory Medicine/Comparative Medicine	11.2%	\$47,853	\$48,432
Large Animal Medicine	5.0%	\$33,613	\$32,650
Large Animal Surgery	10.0%	\$32,502	\$31,000
Neurology/Neurosurgery	3.7%	\$34,319	\$35,000
Oncology	4.7%	\$33,558	\$32,500
Radiation Oncology/Therapy	2.2%	\$32,030	\$31,000
Small Animal Medicine	.5%	\$32,500	\$32,500
Small Animal Surgery	2.7%	\$33,768	\$34,500
Sports Medicine & Rehabilitation	9.2%	\$33,049	\$32,000
Theriogenology	2.2%	\$32,744	\$32,000
Zoological Medicine	1.7%	\$33,429	\$31,364
Total	85.1%	\$35,246	\$34,157

Limitations

The salary data acquired from the VIRMP only represents a portion of available residency and intern positions offered in the United States. It is unclear how many positions are offered to new and recent graduates of the professional DVM program. Because of this, the authors are unable to claim that this data is wholly definitive of the salary ranges that may be offered to residents in the United States.

Conclusion

Residents are offered salaries that roughly less than half the national average salary earned by new graduates, however, there is a wide range of salaries within those offered. Overall, resident salaries rose more than the CPI for the last year. Finally, salaries and residencies are influenced by numerous things including location, practice area and whether the position is offered by an academic institution or a private practice.

Acknowledgements

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References

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