

## 2023 Resident Salaries Offered through the VIRMP Association of American Veterinary Medical Colleges March, 2023

## Introduction

According to the annual Senior Surveys conducted by the American Veterinary Medical Association (AVMA) only 2.2% percent of 2022 graduates directly pursued additional training through residency programs (Bain, Hansen, Ouedraogo, 2023). Recent graduates report receiving additional hands-on training and mentoring, as well as pursuing board as reasons for pursuing internships.

Historically, post-DVM training programs have paid salaries far lower than the national average for recent graduates. In 2022, AVMA reported new graduate veterinarians earned an average annual full-time salary of \$114,027 (Bain, Hansen, Ouedraogo, 2023). By comparison, the Association of American Veterinary Medical Colleges (AAVMC) reported an average salary of \$38,454 for all resident trainees in the United States; for residents specifically entering training programs at academic institutions the mean salary was \$39,467 (Polisetti & Greenhill, 2022).

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 salaries for academic internship 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, 2020). 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 (<u>www.virmp.org</u>). Program coordinators enter detailed information about the positions being offered; the salary being offered is entered as a free-text field.

In the fall of 2022, 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 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.

# Summary of Findings for Resident Positions Filled through the Match Program

The number of first year residency positions offered at academic institutions within the United States through the VIRMP for the 2023-2024 training year was 393 which is greater than the number of positions offered over the previous cycle (384). A total of 49 academic institutions offered these positions.

For resident positions included in this analysis, the average starting salary was \$42,193 or 6.7% higher than the salary offered in 2022. Academic residency positions listed through the matching program were most often located in the South (37.9%) and Midwest (29.3%). Although in prior years the Western region offered the highest average starting salary, in 2023 the Northeastern region made up 17.6% of all positions and offered the highest salary at \$45,165, which is 6.8% more than the national average. Positions in the Northeastern (m = \$45,165) regions offered on average higher salaries than positions in the Midwestern (m = \$41,293, p = .01) and Southern regions (m = \$40,668, p = .001). Positions in the Western (m = \$44,285) regions also offered on average higher salaries than positions in the Southern regions (m = \$40,668, p = .02). These statistically significant differences are likely attributable to differences in the cost of living across regions.

A breakdown of average salary by region can be found in Table 1, while a per state/metropolitan area breakdown can be found in Table 2.

Table 1         Average Salary Offered for Academic         Residency Positions by Region						
Region	Percentage of Positions Listed	N of Positions Listed	Mean	Median		
Midwest	29.3%	115	\$41,293	\$38,456		
Northeast	17.6%	69	\$45,165	\$45,000		
South	37.9%	149	\$40,668	\$36,600		
West	15.3%	60	\$44,285	\$40,170		
Total	100.0%	393	\$42,193	\$40,000		

Mean salaries by state and major metropolitan area are shown in Table 2. An analysis of position offerings by practice area reveals that New York offers the highest percent of positions at 6.87% each

of the total positions offered. Connecticut offers the highest mean salary of \$60,250, which is 35.3% higher than the national average.

Table 2         Average Salary Offered for Academic					
Residency F State/Metropolitan Area	Positions by S Percentage of All	tate N of All Positions	Mean	Median	
Alabama	Positions	10	<u> </u>	<u> </u>	
Alabama (Columbus Auburn Opolika)	<b>3.31%</b> (3.31%)	<b>13</b>	\$36,600	\$36,600	
(Columbus-Auburn-Opelika) California	<b>6.36%</b>	(13) <b>25</b>	(\$36,600) <b>\$49,984</b>	(\$36,600) <b>\$47,976</b>	
(Sacramento-Roseville)	(5.85%)	(23)	(\$47,896)	(\$47,976)	
(San Francisco-San Mateo-Redwood City)	(0.51%)	(23)	(\$74,000)	(347,970) (N/A)	
Colorado	<b>4.07%</b>	16	\$40,097	\$40,170	
(Fort Collins)	(4.07%)	(16)	(\$40,097)	(\$40,170)	
Connecticut	<b>0.76%</b>	3	\$60,250	\$60,000	
(Bridgeport-Stamford-Norwalk)	(0.51%)	(2)	\$ <b>60,250</b> (\$60,000)	(N/A)	
(New Haven-Milford)	(0.25%)	(2)	(\$60,750)	(N/A) (N/A)	
Florida	<b>6.62%</b>	<b>26</b>	\$50,000	\$50,000	
(Gainesville-Lake City)	(6.62%)	(26)	(\$50,000)	(\$50,000	
Georgia	(0.02%)	(20)	(\$50,000)	(\$50,000	
(Atlanta-Athens-Clarke County-Sandy	5.09%	20	\$39,116	\$34,615	
Springs)	(5.09%)	(20)	(\$39,116)	(\$34,615	
Illinois	4.58%	18	\$41,854	\$38,144	
(Champaign-Urbana)	(3.82%)	(15)	(\$39,257)	(\$38,144	
(Chicago-Naperville-Elgin)	(0.76%)	(13)	(\$54,840)	(\$54,840	
Indiana	<b>2.29%</b>	<b>9</b>	\$33,050	\$33,050	
(Lafayette West- Lafayette Frankfort)	(2.29%)	(9)	(\$33,050)	(\$33,050	
lowa	3.05%	12	\$45,000	\$45,000	
(Des Moines-Ames-West Des Moines)	(3.05%)	(12)	(\$45,000)	(\$45,000	
Kansas	1.53%	<b>6</b>	\$38,456	\$38,456	
(Manhattan)	(1.53%)	(6)	(\$38,456)	(\$38,456	
Louisiana	<b>3.56%</b>	14	\$36,507	\$31,160	
(Baton Rouge)	(3.05%)	(12)	(\$33,508)	(\$31,160	
(New Orleans-Metairie-Hammond)	(0.51%)	(12)	(\$54,500)	(0,01,100 (N/A)	
Maryland	0.76%	3	\$55,656	\$55,656	
(Baltimore-Columbia-Towson)	(0.76%)	(3)	(\$55,656)	(\$55,656	
Massachusetts	<b>3.56%</b>	14	\$43,945	\$42,130	
(Boston-Cambridge-Newton)	(0.51%)	(2)	(\$54,835)	(N/A)	
(Worchester)	(3.05%)	(12)	(\$42,130)	(\$42,130	
Michigan	<b>3.31%</b>	13	\$43,425	\$40,000	
(Ann Arbor)	(0.76%)	(3)	(\$54,840)	(\$54,840	
(Lansing-East Lansing)	(2.54%)	(10)	(\$40,000)	(\$40,000	
Minnesota	<b>2.29%</b>	(10) <b>9</b>	\$35,751	\$33,500	
(Minneapolis-St. Paul)	(2.29%)	(9)	(\$35,751)	(\$33,500	
Mississippi	1.27%	5	\$35,000	\$35,000 \$35,000	

(Columbus-West Point)	(1.27%)	(5)	(\$35,000)	(\$35,000)
Missouri	4.07%	16	\$38,720	\$35,000
(Columbia-Moberly-Mexico)	(4.07%)	(16)	(\$38,720)	(\$35,000)
New Jersey	0.51%	2	\$56,500	\$56,500
(New Brunswick-Lakewood)	(0.51%)	(2)	(\$56,500)	(N/A)
New York	6.87%	27	\$48,473	\$45,000
(Ithaca)	(5.85%)	(23)	(\$45,428)	(\$45,000)
(New York-Newark-Jersey City)	(1.02%)	(4)	(\$65,985)	(\$66,750)
North Carolina	6.62%	26	\$41,603	\$40,000
(Raleigh-Cary)	(0.51%)	(2)	(\$54,835)	(N/A)
(Durham-Chapel Hill)	(5.85%)	(23)	(\$40,000)	(\$54,835)
(Winston-Salem)	(0.25%)	(1)	(\$52,000)	(N/A)
Ohio	4.58%	18	\$52,158	\$52,000
(Columbus)	(4.58%)	(18)	(\$52,158)	(\$52,000)
Oklahoma	0.76%	3	\$41,064	\$33,488
(Oklahoma City-Shawnee)	(0.25%)	(1)	(\$56,217)	(N/A)
(Stillwater)	(0.51%)	(2)	(\$33,488)	(N/A)
Oregon	2.04%	8	\$38,304	\$38,304
(Corvallis)	(2.04%)	(8)	(\$38,304)	(\$38,304)
Pennsylvania	5.85%	23	\$39,069	\$36,000
(Harrisburg-Carlisle)	(0.51%)	(2)	(\$54,840)	(N/A)
(Philadelphia-Reading-Camden)	(5.34%)	(21)	(\$37,567)	(\$36,000)
Tennessee	4.07%	16	\$35,969	\$33,000
(Knoxville-Morristown-Sevierville)	(3.31%)	(13)	(\$32,615)	(\$33,000)
(Memphis)	(0.51%)	(13)	(\$50,500)	(\$33,000) (N/A)
(Nashville-Davidson—Murfreesboro	(0.25%)	(1)	(\$50,500)	(N/A) (N/A)
Franklin)	· · ·	. ,	( ,	· · ·
Texas	4.58%	18	\$36,805	\$35,000
(College Station-Bryan)	(4.33%)	(17)	(\$35,647)	(\$35,000)
(Houston-The Woodlands-Sugar Land)	(0.25%)	(1)	(\$56,484)	(N/A)
Virginia	1.27%	5	\$41,100	\$41,100
(Blacksburg-Christiansburg)	(1.27%)	(5)	(\$41,100)	(\$41,100)
Washington	2.80%	11	\$41,775	\$35,875
(Pullman-Moscow)	(2.04%)	(8)	(\$35,875	(\$35,875)
(Seattle-Tacoma-Bellevue)	(0.76%)	(3)	(\$57,507)	(\$53,760)
Wisconsin	3.56%	14	\$34,463	\$33,000
(Madison-Janesville-Beloit)	(3.56%)	(14)	(\$34,463)	(\$33,000)
Total	100.0%	393	\$42,193	\$40,000

Twenty-five different practice areas were represented in the match data with a mean salary range of \$37,887 (Surgery – Large Animal) to \$55,971 (Laboratory animal medicine/Comparative medicine).

Table 3 shows the mean residency salary offerings by practice area. Positions in laboratory animal/comparative medicine comprised the largest single group of offerings by positions (13.7%).

Table 3

Residency Positions by Practice Area					
Practice Area	% of Positions	N of Position s	Mean	Median	
Ambulatory	0.8%	3	\$43,390	\$45,000	
Anesthesia	5.3%	21	\$39,489	\$38,144	
Behavior	0.5%	2	\$41,988	\$41,988	
Cardiology	4.8%	19	\$40,213	\$40,000	
Clinical Nutrition	0.3%	1	\$47,976	\$47,976	
Dentistry	1.0%	4	\$44,238	\$46,488	
Dermatology	2.3%	9	\$38,075	\$36,000	
Diagnostic Imaging and Radiology	6.1%	24	\$40,505	\$39,228	
Emergency Medicine/Critical Care	11.2%	44	\$41,724	\$40,085	
Equine Medicine	3.1%	12	\$41,087	\$40,085	
Equine Surgery	1.8%	7	\$41,118	\$38,144	
Exotic/Wildlife/Zoo	0.5%	2	\$48,988	\$48,988	
Food Animal Medicine and Surgery	1.5%	6	\$39,719	\$39,072	
Herd Medicine/Agricultural Practices/Herd Production	0.5%	2	\$47,053	\$47,053	
Laboratory Animal/Comparative Medicine	13.7%	54	\$55,971	\$54,840	
Medicine - Large Animal	3.3%	13	\$38,216	\$36,600	
Medicine - Small Animal	11.7%	46	\$38,375	\$36,300	
Neurology/Neurosurgery	4.1%	16	\$37,979	\$36,238	
Oncology	6.6%	26	\$39,701	\$38,380	
Radiation Oncology/Therapy	2.0%	8	\$39,845	\$38,572	
Sports Medicine and Rehabilitation	1.8%	7	\$40,349	\$40,170	
Surgery - Large Animal	2.8%	11	\$37,887	\$38,304	
Surgery - Small Animal	9.2%	36	\$40,206	\$38,380	
Theriogenology	3.1%	12	\$40,330	\$38,300	
Zoological Medicine	2.0%	8	\$39,217	\$39,072	
Total	100.0%	393	\$42,193	\$40,000	

# Average Salary Offered for Academic Residency Positions by Practice Area

An analysis of application requirements revealed that 77.4% of residency positions required at least one previous year's internship or comparable experience. Residencies without a previous internship requirement had mean salary offers featuring experience requirements were 23.4% higher than salaries with the requirement (p < 0.001) (Table 4).

Table 4         Average Salary Offered for Academic         Residency Positions by Experience Requirements					
Previous Experience Requirements	Percentage of Positions Listed	N of Positions Listed	Mean Salary	Median Salary	
No Previous Internship Required	22.6%	89	\$50,341	\$52,000	
Previous Internship Required	77.4%	304	\$39,807	\$38,304	
Total	100.0%	393	\$42,193	\$40,000	

# 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. That said, all academic residency positions are offered exclusively through the VIRMP, making this data set representative of this specific population.

## 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, average resident salaries increased by 6.7% when compared to 2022. Finally, salaries and residencies are influenced by numerous things including location and practice area.

## Acknowledgements

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References

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