

## **Pet Healthcare in the US: Are There Enough Veterinary Specialists? Is There Adequate Training Capacity?**

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### **Background**

Recent studies have determined that an overall shortage of veterinarians and veterinary nurses/technicians exists in the U.S. pet healthcare market – a shortage that stands to worsen substantially as the need for companion animal (CA) veterinary services continues to grow.<sup>1,2</sup> While the COVID-19 pandemic has exacerbated the impacts of this situation in the short-term, the overall veterinary workforce shortages are clearly long-term challenges.<sup>3</sup> Teams are feeling overworked and overwhelmed. Burnout is high.

Strongly rooted in the ongoing evolution of the human-animal bond, consumers' willingness to spend on pet healthcare has been increasing for at least 40 years.<sup>4</sup> This increase in spending is showcased through increased numbers of visits, along with more and higher value products and services per visit.<sup>5</sup> Growth in demand for specialty services has been a direct result of the trend, and an increasing demand for veterinary specialists has ensued.

Because of the underlying veterinary workforce shortages, the growth in demand for specialty services and specialists has significantly outpaced the general growth in demand for companion animal veterinary services. Widespread anecdotal evidence suggests that extended wait times for appointments with general practitioners (which have become more common since the pandemic-related shutdown) increasingly leads to patients that are more seriously ill on presentation, and thereby are more likely to require referral to a specialist. In addition, as a consequence of veterinary healthcare teams feeling overworked and overwhelmed, many cases that would have remained with the general practice are now being referred to specialists or routed through emergency services due to already stretched capacity for thorough and thoughtful case work-up, diagnosis, and treatment/management.

As such, specialty care is clearly becoming an increasingly critical component of the veterinary healthcare system, and questions related to the adequacy of the veterinary specialty care network are indeed timely. When considered alongside 2018 data suggesting that 57% of diplomates at that time were at least 50 years old,<sup>6</sup> the gravity of the questions becomes even greater.

### **Data**

In total, 22 AVMA-recognized veterinary specialty organizations exist, made up of 46 distinct AVMA-recognized veterinary specialties.<sup>7</sup> To maintain a manageable scope, this report will focus only on the four specialties that have the greatest number of diplomates directly active in companion animal practice (internal medicine, surgery, emergency/critical care, and radiology/diagnostic imaging) and four specialty colleges (the American College of Veterinary Internal Medicine (ACVIM), the American College of Veterinary Surgeons (ACVS), the American College of Veterinary Emergency and Critical Care (ACVECC), and the American College of Veterinary Radiology (ACVR)).

Beyond the AVMA website on specialists,<sup>8</sup> some data for this project was obtained via personal communication with the American Board of Veterinary Specialties (ABVS) – with express permission from each individual specialty College – and some were obtained via personal communication directly with the Colleges themselves. In addition, data on current job openings for specialists certified by these four Colleges were provided by talent and recruitment leadership from five leading corporate practices

that employ such specialists: BluePearl Specialty and Emergency Pet Hospitals, VCA Animal Hospitals, NVA Compassion-First, PetVet Care Centers, and Thrive Pet Healthcare.

Between 2007 and 2020, the total number of diplomates in these four specialty Colleges increased at rates ranging from 3.5%/year (ACVS) to 9.8%/year (ACVECC).<sup>8</sup> Even though these rates of increase are substantially higher than the 2.7%/year rate of increase for veterinarians as a whole during the same period,<sup>9</sup> the vital, unique, and evolving importance of veterinary specialists and veterinary specialty services warrants a closer look at each of these four Colleges:

1. **American College of Veterinary Internal Medicine (ACVIM)** – The ACVIM is the largest of the specialty Colleges, with a reported total of 3,219 diplomates as of September 8, 2021.<sup>10</sup> At that point, the ACVIM included five distinct specialties: cardiology, large animal internal medicine, neurology, oncology, and small animal internal medicine (SAIM)<sup>a</sup>. Approximately 45% were SAIM specialists (1,460).<sup>10</sup> Other key items of interest include:
  - a. Growth rate for the total number of ACVIM diplomates (all specialties included) from 2007 to 2020 was 4.5%/year. Numerically, this increase was from 1,771 to 3,121.<sup>8</sup>
    - i. From 2015 to 2020, the growth rate was 3.4%/year (numerically, 2,733 to 3,121).
  - b. Growth rate for total SAIM diplomates from 2007 to 2020 was 3.6%/year. Numerically, this increase was from 904 to 1,430, or an average net increase of 40.5 SAIM diplomates per year.<sup>8</sup>
    - i. From 2015 to 2020, the growth rate was 2.2%/year (numerically, 1,310 to 1,430), for an average net increase of 24.0 SAIM diplomates per year.
  - c. Total number of ACVIM residency training programs (all five specialties) in 2021 was 246.
  - d. Total number of SAIM residency training programs in 2021 was 60.
  - e. Total number of new ACVIM residents starting their programs (all five specialties) in 2020 was 201.
  - f. Total number of residents in ACVIM training programs (all five specialties) as of October 2021 was 602.
  - g. Estimated number of trainees that will be completing their ACVIM residency programs (all five specialties) and entering the job market in 2022 is 201.
    - i. An estimated 49 of these will be SAIM specialists.
  - h. Total number of open positions posted on ACVIM employment website as of Sept. 28, 2021 was 541 (all five specialties), with 332 posted for the SAIM specialty.
  - i. Total number of SAIM specialist job openings in five corporate practices as of October 2021 was 200.
  - j. Ratio of available jobs to anticipated new job market entrants:
    - i. ACVIM total postings (541)/total ACVIM entrants (201) = 2.7
    - ii. SAIM postings (332)/SAIM entrants (49) = 6.8
    - iii. SAIM job openings at five corporate practices (200)/total ACVIM entrants (201) = 1.0
    - iv. SAIM job openings at five corporate practices (200)/SAIM entrants (49) = 4.1
2. **American College of Veterinary Surgeons (ACVS)** – The ACVS is the second largest of the specialty Colleges, with a total of 1,872 diplomates reported in 2020.<sup>8</sup> Since 2004, new ACVS diplomates have been required to certify as specialists in Large Animal (LAS), Small Animal (SAS), or dual species.<sup>11</sup> Since 2016, the ratio of SAS specialists to LAS specialists in ACVS has been about 2:1.<sup>8</sup> Over the same period, the ratio of SAS residency positions to LAS residency

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<sup>a</sup> On September 22, 2021, ACVIM added the specialty of nutrition as the sixth distinct specialty within the organization. Subsequently, ACVIM welcomed 106 veterinary nutrition specialists as Diplomates.<sup>10</sup>

positions in the Veterinary Internship & Residency Matching Program (VIRMP) has also been about 2:1.<sup>12</sup> Other key items of interest include:

- a. Growth rate for the total number of ACVS diplomates (all specialties) from 2007 to 2020 was 3.5%/year. Numerically, this increase was from 1,192 to 1,872.<sup>8</sup>
    - i. From 2015 to 2020, the growth rate was 3.4%/year (numerically, 1,640 to 1,872).
  - b. Growth rate for total SAS diplomates from 2007 to 2020 was 13.4%/year. Numerically, this increase was from 168 to 858, or an average net increase of 53.1 SAS diplomates per year.<sup>8</sup>
    - i. From 2015 to 2020, the growth rate was 10.4%/year (numerically, 577 to 858), for an average net increase of 56.2 SAS diplomates per year.
  - c. Total number of ACVS residency training programs (all specialties) in 2020 was 102.
  - d. Total number of ACVS residents in training programs (all specialties) during 2020 was 296.
  - e. Approximate number of trainees that will be completing their ACVS residency programs and entering the job market (all specialties) in 2022 is 99.
    - i. An estimated 65 of these will be SAS specialists.
  - f. Total number of SAS specialist job openings in five corporate practices as of October 2021 was 181.
  - g. Ratio of available jobs to anticipated new job market entrants:
    - i. SAS specialist job openings at five corporate practices (181)/total ACVS entrants (99) = 1.8.
    - ii. SAS specialist job openings at five corporate practices (181)/SAS entrants (65) = 2.8.
3. **American College of Veterinary Emergency and Critical Care (ACVECC)** – The ACVECC reported a total of 792 diplomates in 2020.<sup>8</sup> Other key items of interest include:
- a. Growth rate for total number of ACVECC diplomates from 2007 to 2020 was 9.8%/year. Numerically, this increase was from 234 to 792, for an average net increase of 42.9 diplomates per year.<sup>8</sup>
    - i. From 2015 to 2020, the growth rate was 9.7%/year (numerically, 547 to 792), for an average net increase of 49.0 diplomates per year.
  - b. Total number of ACVECC residency training programs in 2021 was 65.
  - c. Total number of ACVECC residents in training programs as of October 2021 was 234.
  - d. Estimated number of trainees that will be completing their ACVECC residency programs and entering the job market in 2022 is 78.
  - e. Total number of emergency/critical care (ECC) specialist job openings in five corporate practices as of October 2021 was 182.
  - f. Ratio of available jobs to anticipated new entrants:
    - i. ECC specialist job openings at five corporate practices (182)/total ACVECC entrants (78) = 2.3.
4. **American College of Veterinary Radiology (ACVR)** – The ACVR reported 639 diplomates in 2020.<sup>8</sup> Other key items of interest include:
- a. Growth rate for total number of ACVR diplomates from 2007 to 2020 was 5.6%/year. Numerically, this increase was from 314 to 639, for an average net increase of 25.0 diplomates per year.<sup>8</sup>
    - i. From 2015 to 2020, the growth rate was 2.6%/year (numerically, 576 to 639), for an average net increase of 12.6 diplomates per year.
  - b. Total number of ACVR residency training programs in 2020 was 34.
  - c. Total number of ACVR residents in training programs during 2020 was 149.

- d. Estimated number of trainees that will be completing their ACVR residency programs and entering the job market in 2022 is 50.
- e. Total number of diagnostic imaging specialist job openings in five corporate practices as of October 2021 was 85.
- f. Ratio of available jobs to anticipated new entrants:
  - i. Diagnostic imaging specialist job openings at five corporate practices (85)/total ACVR entrants (50) = 1.7.

**So, are there enough veterinary specialists?**

Based on the data presented, there is clearly a shortage of both specialists and specialist training capacity. For each of the specialties considered, the number of job openings at only the five corporate practices considered markedly exceeds the total number of anticipated job market entrants, ranging from a low of 1.7 open positions for each ACVR entrant to as high as 4.1 open positions for each ACVIM-SAIM entrant. This does not even consider open positions that exist in academia, collectively one of the largest employers in this market, or other potential employers in the private sector.

In reflecting on the data from each of the four specialty Colleges, a number of organization-specific issues warrant mention to provide additional context. These are highlighted here by specialty:

- **ACVIM**
  - Diplomate growth rates for ACVIM in total, and SAIM specifically, exceeded the overall DVM growth rate over the past 10+ years. However, both have slowed substantially since 2015. The rate of growth within SAIM since 2015 (2.2%/year) has decreased to a point that is actually less than the overall growth rate for DVMs. Although not included in the current study, further analysis of the decreasing SAIM growth rate would be very helpful to quantify the relative importance of training capacity vs. retirement rates, along with identification of any related trends of importance.
  - Despite the recent growth in the internal medicine specialty, the degree to which the number of available jobs exceeds the expected number of new job market entrants is quite substantial. Across all five ACVIM specialties, there are about three times as many available jobs as anticipated entrants. The shortage of specialists is even more pronounced within the realm of companion animal practice, where over six SAIM jobs exist per anticipated entrant. If only the five corporate employers included in this analysis are considered, there are still 4.1 SAIM jobs for every single expected SAIM entrant.
- **ACVS**
  - Similar to ACVIM and SAIM, diplomate growth rates for both ACVS in total and SAS specifically exceeded the DVM growth rate over the past 10+ years. Higher growth rates for SAS can be explained, in part, by the fact that this is a relatively new specialty (established in 2004).
  - As with internal medicine specialists, the five corporate employers considered in this analysis have enough available surgery specialist (SAS) jobs to hire virtually every trainee that will be completing their ACVS residency programs and entering the job market in 2022, regardless of species specialty, with a total of nearly two jobs per anticipated entrant. However, many of the entrants will be completing either large animal or equine-focused residencies and therefore would not be realistic candidates for employment in companion animal practice. Therefore, the effective number of available jobs per entrant would be considerably higher. When only the estimated number of SAS entrants is considered, there are about 2.8 jobs/entrant across just the five corporate employers included in this study.

- **ACVECC**
  - Like the other specialties, the growth rate for ACVECC diplomates has exceeded the overall DVM growth rate over the past 10+ years. As with SAS, the comparatively higher rate for ACVECC can be explained, in part, by the fact that this is also a relatively new specialty (established in 1989).<sup>13</sup>
  - Similarly, the five corporate employers considered in this analysis have enough available emergency/critical care specialist jobs to hire all the trainees that will be completing their ACVECC residency programs and entering the job market in 2022, with a total of nearly two and a half jobs per anticipated entrant. As with ACVS, some of the entrants will likely be completing residencies that were not focused on companion animal practice and as such, the effective number of available jobs per entrant might be considerably higher.
- **ACVR**
  - Historical growth rates for ACVR diplomates over the past 10+ years have been about two times the overall DVM growth rate. Much like ACVIM-SAIM diplomates, however, the rate of growth since 2015 (2.6%/year) has decreased to a point that is actually less than the overall growth rate for DVMs. Again, further study to identify the relative importance of training capacity vs. retirement rates and any critical trends would be helpful.
  - Even though much of their diagnostic imaging work is outsourced, the five corporate employers considered in this analysis still have enough available diagnostic imaging specialist jobs to hire all the trainees that will be completing their ACVR residency programs and entering the job market in 2022, with a total of over one and a half jobs per anticipated entrant.

Ultimately, the fact that the current number of job openings in just the five corporate practices either equals or exceeds the entire anticipated number of trainees expected to complete their residency programs and enter the market in 2022 is remarkable. From this perspective, the total number of new entrants would not even be sufficient to address the openings for just these five employers, not to mention all the other employers in both the private and public sectors.

**Is this workforce shortage critical to academic veterinary medicine?**

A relatively large proportion of academic veterinarians are board-certified specialists. In 2021, over 30% of the total 4,385 faculty at AAVMC member institutions were non-tenure, clinical faculty<sup>14</sup> – the vast majority of which are specialty trained. In addition, a substantial proportion of the nearly 50% of the faculty who were tenure/tenure track are also specialty trained. Even though their total numbers are admittedly less than the total number of specialists employed in the private sector, the academic specialists are particularly critical to the future of the veterinary medical profession because they are directly responsible for training the next generation of veterinarians and for conducting the research whose results provide the new knowledge that will shape the practice of veterinary medicine in the future. Perhaps even more importantly, specialists in academia currently conduct the majority of the specialty training programs in most of the recognized specialties. Because of these critical roles for specialists in this particular segment of the market a prolonged shortage of specialists could have a substantial negative industry-wide impact on both access to care and quality of care for years to come.

**Are there potential limitations of this analysis?**

Because robust, industry-wide data on the demand for specialty veterinary medical services is not readily available, this analysis was limited to a single point-in-time look at the employment market for veterinary specialists. Similarly, comprehensive data on specialty training programs across specialty

organizations and training institutions is not generally available. Although the Veterinary Internship and Residency Matching Program (VIRMP) does maintain a well-designed, maintained, and increasingly useful database,<sup>12</sup> it only includes that portion of programs that participate in the match. Because rates of participation in the match can vary considerably by specialty, and even sometimes within specialty from year-to-year, the VIRMP can only provide a partial picture of the specialty training landscape. The American Board of Veterinary Specialties (ABVS)<sup>7</sup> collects data via annual reporting requirements from all recognized veterinary specialty organizations, but those data are currently neither collected nor maintained in a consistent, readily accessible format. Consequently, this analysis was limited to a focus on only four specialties. Nevertheless, in the context of the broader workforce shortages and related trends reported elsewhere,<sup>1-3</sup> the conclusion of an unmistakable shortage in both specialists and specialist training capacity is clear, both now and for the foreseeable future.

### **So, what comes next?**

To effectively meet the growing need for specialty pet healthcare services in the U.S. – to provide US pet owners with adequate access to specialty care – it will be critical to increase specialty training capacity. Not only will access to care be expanded and improved as a result, but patient outcomes, client satisfaction, and the overall ability of veterinary medicine to meet societal needs will be enhanced.

The need to protect capacity for training both future veterinarians and specialists is especially crucial, in addition to generating new knowledge through research. Because of this, the academic-specialist workforce is vital.

Specialty training is a complex process. Appropriately, each specialty organization independently sets its own standards for both training sites and programs with oversight from the ABVS.<sup>7</sup> Developing and maintaining top quality programs requires a substantial commitment by institutions that offer residency training programs. Effectively addressing the current shortage will require:

- Developing a broad-based recognition that a shortage exists, and agreeing to work collaboratively toward solutions.
- Starting progressive, collaborative discussions within ABVS-recognized specialty organizations to consider existing standards for both training sites and programs. Work to identify bottlenecks that limit training capacity and discuss possible innovative alternatives that both maintain quality and increase the number of potential trainees. Actively seek and include perspectives from both academic veterinary medicine and the private sector.
- Development of systems to collect consistent, reliable, comprehensive data on specialty training programs, trainees across specialty organizations, and specialty training institutions. Include considerations for:
  - The number of trainees and quality of their training.
  - The wellbeing of trainees, from financial, mental health, and physical health perspectives.
  - Dimensions of diversity, equity, and inclusion in all training programs.
- Establish systems to conduct ongoing, broad-based research on the demand for specialty veterinary medical services over time.

Because of the complexity, magnitude, and urgency of the challenge, the time to get started is now.

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