

Veterinarian Workforce and Education in California

INTRODUCTION

This report presents an overview of California's veterinarian workforce. The majority of veterinarians care for companion animals (i.e., pets). Others work in settings such as agriculture, research, and public health. As a health sciences discipline with expertise across multiple species and ecosystems, veterinary medicine in the United States plays an increasingly vital role in caring for animals and advancing human health.

SUMMARY

- As of 2018, California had 7,380 licensed veterinarians, the majority of whom provided care to companion animals.
- Most veterinarians are in general practice and have not completed a residency program in a specialty.
- In 2019, 70% of veterinarians in California were female.
- California has two accredited schools of veterinary medicine, one public (UC Davis School of Veterinary Medicine) and one private not-for-profit (Western University of Health Sciences). The number of applicants to these schools far exceeds the number of first-year students they can enroll.
- California is experiencing a shortage of veterinarians who care for food animals, particularly in rural counties.
- Demand for veterinarians is projected to grow over the next decade, although the rate of growth may decrease due to the economic downturn associated with the COVID-19 pandemic.

CURRENT SUPPLY

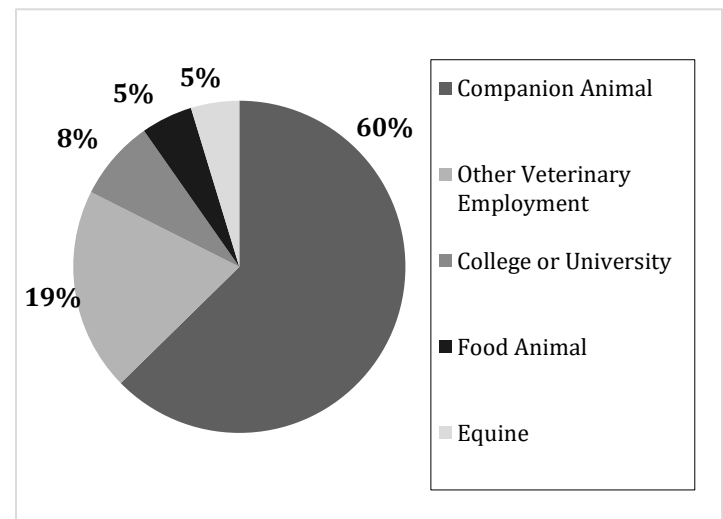
According to the Current Population Survey, there were 102,000 licensed veterinarians in the U.S. workforce in 2018.¹

Practice Types

United States

Nationally, the largest segment of the veterinary profession is in private and corporate practice and provides medical services to animals. Of these, companion animal practices employ the largest percentages of veterinarians, followed by food animal and equine practices (**Figure 1**). Among public practice settings, colleges and universities employ the most veterinarians.²

Figure 1. National Veterinarian Workforce, 2018



Source: American Veterinary Medical Association, 2019 AVMA Report on the Economic State of the Veterinary Profession

Most veterinarians are in private practice. Public service veterinarians, typically employed through entities such as California Department of Food and Agriculture (CDFA) and National Animal Health Laboratory Network (NAHLN), are responsible for protecting livestock and poultry

from catastrophic animal diseases and other health or agricultural problems.^{3,4}

California

Among respondents to a 2019 survey of 1,488 California veterinarians, 70% reported that they provide care exclusively to small animals. Nineteen percent provide care predominantly to small animals, 4% care for equines, and 7% are in practices characterized as “other.”⁵

Board Certification

Successful completion of a residency is required for certification by any of the 22 veterinary medical specialty boards recognized by the American Veterinary Medical Association. As of December 2018, there were 13,539 active board-certified veterinarians in the United States, accounting for 12% of the veterinarian workforce. The majority of these individuals held certification through the American College of Veterinary Internal Medicine (3,044), the American College of Veterinary Pathologists (1,998), and the American College of Veterinary Surgeons (1,771).⁶ From 2013 and 2018 the largest increase was seen in the number of veterinarians board certified in emergency and critical care (62.8%).⁷

Geographic Distribution

California

Among respondents to a 2019 survey of 1,488 California veterinarians, 32% reported practicing in the Greater Los Angeles area, either in Los Angeles County (15%) or in other Los Angeles area counties (Orange, Riverside and San Bernardino — 17%). Twenty-six percent reported practicing in the Bay Area, 16% in Sacramento or counties north of Sacramento, 11% in San Diego County, 9% in the Central Valley and 7% on the Central Coast.⁸

Among California veterinarians who responded to a 2016 survey, 23% reported practicing in an urban setting, 26% in a mixed urban/suburban setting, 26% in a suburban setting, 19% in a suburban/rural setting, and 6% in a rural setting.⁹

Demographic Characteristics

United States

According to a report published in 2019, 85% of U.S. veterinarians reported graduating from a U.S. veterinary school, 5.5% from a Caribbean veterinary school, 1.3% from a Canadian veterinary school, and 8.2% from a veterinary school in another country.¹⁰

The age distribution of the veterinarian workforce in the United States has changed over the past decade. The percentages of veterinarians in the workforce who are under 40 years of age or age 60 to 65 years have increased, whereas the percentage age 40 to 59 years has decreased. In 2018, 38% of working age veterinarians were age 40 years or younger, 25% were age 41 to 49 years, 22% were age 50 to 59 years, and 14% were age 60 to 65 years.¹¹

The distribution of veterinarians by gender has also changed. In 2008, the ratio of men to women among U.S. veterinarians was equal. However, by 2018, women comprised 61.7% of the veterinarian population. This trend is expected to persist as the proportion of women at veterinary schools continues to increase.¹²

According to 2018 estimates from the Current Population Survey, 92.9% of veterinarians in the United States were white, 4.1% were Asian, 2.3% were Latino, and less than 1% were Black.¹³

California

Among respondents to a 2019 survey of 1,488 California veterinarians, 37% were under the age of 40, 24% were 40 to 49, 27% were 50 to 64, and 10% were age 65 or older.¹⁴

The percentage of California veterinarians who are female is increasing. Of those surveyed in 2019, 70% identified as female, 28% as male, and 2% as other.¹⁵ In 2016, 68% identified as female and 30% as male. In 2013, 63% identified as female and 37% as male.¹⁶

Forty-five percent of respondents to the 2019 survey reported attending veterinary school in

California (37% at UC Davis and 8% at Western University of Health Sciences), while 37% reported attending a U.S. veterinary school outside of California and 17% reported attending veterinary school outside of the United States.¹⁷

Among respondents to a 2016 survey, 57% of practicing veterinarians reported their highest level of education as a DVM degree, 22% as a DVM plus an internship, 9% as a DVM plus a residency and 12% as a DVM plus another degree.¹⁸

EDUCATION

Veterinary Schools

Veterinarians must complete a Doctor of Veterinary Medicine degree (DVM, or VMD for graduates of University of Pennsylvania) at an accredited school of veterinary medicine, generally after receiving a bachelor's degree. Most programs include three years of classroom, laboratory and clinical work. The last year of the four-year program involves clinical rotations in a veterinary medical center or hospital.

In addition to graduating from an accredited veterinary program, veterinarians must pass the North American Veterinary Licensing Examination to obtain licensure. Most states also require that veterinarians pass a state licensing exam.

There are currently 30 veterinary schools in the United States that are accredited or have accreditation pending. California has two accredited veterinarian schools, one public (University of California, Davis), and one private not-for-profit (Western University of Health Sciences).

From 2009 to 2019, the number of first-year seats in U.S. veterinary schools increased by an average of 2.4% per year.¹⁹ These schools graduated a total of 3,142 students in 2018. In 2019, there were 8,152 applicants to U.S. veterinary schools and 3,533 first-year students, yielding a ratio of 2.3 applicants per first-year seat.²⁰ Ratios are higher at individual veterinary schools because prospective students typically

apply to multiple schools. In 2019, UC Davis had 6.6 applicants per first-year seat and Western University had 7.8.²¹

In 2018, new DVM recipients nationwide graduated with an average student debt of \$152,358 and an average starting salary of \$82,894 in private practice and \$71,905 in public practice.²² The average debt for a veterinary school graduate from UC Davis was \$120,250, and was \$300,723 from Western University of Health Sciences.²³ Veterinary school graduates from UC Davis who secured full-time employment had the second lowest debt-to-income ratio in the nation, while Western's graduates had the second highest debt-to-income ratio.²⁴

Veterinarians have a lower return on investment in education than people in most health-related professions because veterinarians earn low salaries relative to the substantial expenses associated with veterinary education.²⁵ One study found that the income of veterinarians remains low because the number of companion animal veterinarians in the U.S. is growing faster than demand.²⁶ However, findings from surveys conducted by the California Veterinary Medical Association suggest that the incomes of veterinarians in California increased through 2019.²⁷

Postgraduate Education

Nearly 30% of veterinarians who graduated in 2018 chose to complete an internship.²⁸ Veterinarians who complete a year-long internship or who have two years of private practice experience are eligible to apply for a residency program. Residency training is available in internal medicine, surgery, cardiology, dermatology, ophthalmology, exotic small-animal medicine, pathology, neurology, radiology, anesthesiology, and oncology.

Demographic Characteristics of Veterinary Students

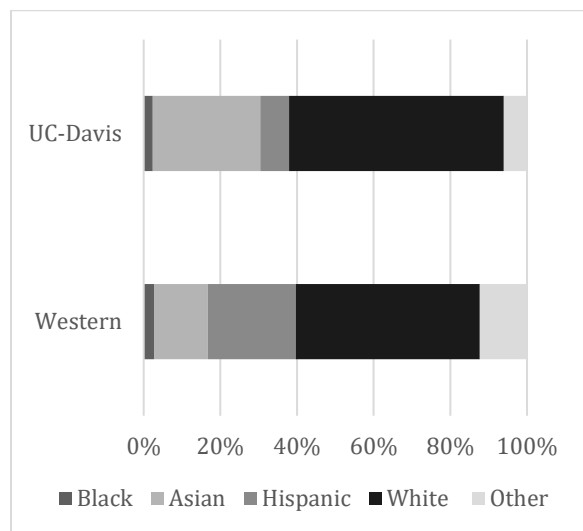
California

For the 2019-2020 academic year, UC Davis admitted 148 new students, 131 of whom (89%) were from California. For the same period, Western University of Health Sciences admitted 107 new students, 65 (61%) of whom were from California.^{29,30}

Among students enrolled at UC Davis during the 2019-2020 academic year, 56% were white, 28% were Asian, 7.5% were Latino, 3.6% were Native Hawaiian/Pacific Islander, 2.4% were Black, 1.3% were multi-ethnic, 0.87% were American Indian/Native Alaskan and 0.5% were foreign nationals. One UC Davis student's race/ethnicity was unknown.

Among students enrolled at Western University during the 2019-2020 academic year, 48% were white, 23% were Latino, 14% were Asian, 7.7% were multi-ethnic, 2.7% were Black, 0.25% were Native Hawaiian/Pacific Islander, 1% were foreign nationals, and 4.2% were an unknown ethnicity.³¹

Figure 2. California Veterinary Students by Race/Ethnicity, 2019-2020



Source: Association of American Veterinary Medical Colleges. Annual Data Report 2019-2020

Nationwide, the percentage of female veterinary students has increased from 36% in 1980 to 82% in 2020. California's veterinary schools have followed this trend. Among students enrolled at UC Davis in 2020, 84% were female, 15% were male and 1% were non-binary. Among students enrolled at Western University, 78% were female and 22% were male.³²

FUTURE SUPPLY AND DEMAND

Most states had a ratio of 1,000 to 1,500 housing units for every 1 veterinarian. States with the lowest number of housing units per veterinarian were primarily located in the West Central and Mountain Regions. The states with the highest number of housing units per veterinarian were primarily located in the Mid-Atlantic region.³³

Across California there are shortages of veterinarians who care for food animals due to challenges with recruitment, retention and practice location, exacerbated by high debt levels. For example, there are shortages in Lassen, Siskiyou and Imperial Counties, which are geographically remote and have a large number of beef cattle and sheep ranches.³⁴

The Bureau of Labor Statistics projects that the number of jobs for veterinarians will grow 18% from 2018 to 2028, a much faster rate of growth than the average for all occupations.³⁵ These forecasts were generated prior to the slowing of the U.S. economy due to the COVID-19 pandemic, however, and the decline in the U.S. economy may lead to a decrease in demand for veterinary services as there is less overall discretionary income to spend on services for companion animals. A decrease in demand for services for companion animals may alleviate the shortage of veterinarians who care for food animals, and may decrease the rate of growth in veterinarian jobs. Thus, it seems unlikely that California will face a shortage of veterinarians in the short term.

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³ National Animal Health Laboratory Network https://www.aavmc.org/assets/site_18/files/advocacy/fy13/nahln.pdf

⁴ California Department of Food and Agriculture, Animal Health and Food Safety Services Division. <https://www.cdfa.ca.gov/ahfss/>

⁵ California Veterinary Medical Association. 2019 Economic Issues Survey of California Veterinarians and RVTs. Retrieved from

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<https://www.avma.org/KB/Resources/Statistics/Pages/Market-research-statistics-Veterinary-specialists.aspx>

⁷ Ouedraogo, F.B., Bain, B., Hansen, C., Salois, M.A. Census of veterinarians in the United States (2019) *Journal of the American Veterinary Medical Association*, 255 (2), pp. 183-191.

⁸ California Veterinary Medical Association. 2019 Economic Issues Survey of California Veterinarians and RVTs. Retrieved from

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⁹ California Veterinary Medical Association. 2016 Economic Issues Survey of California Veterinarians and RVTs. Retrieved from

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¹¹ American Veterinary Medical Association. 2019 AVMA Report on Economic State of the Veterinary Profession. Schaumburg, IL: AVMA, 2019.

¹² Ouedraogo, F.B., Bain, B., Hansen, C., Salois, M.A. Census of veterinarians in the United States

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¹⁹ Association of American Veterinary Medical Colleges. Annual Data Report 2019-2020.

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²² American Veterinary Medical Association. 2019 AVMA Report on Economic State of the Veterinary Profession. Schaumburg, IL: AVMA, 2019.

²³ Association of American Veterinary Medical Colleges. Annual Data Report 2018-2019. Washington, DC: Association of American Veterinary Medical Colleges; 2019 January. Retrieved from <https://www.aavmc.org/about-aavmc/public-data>

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²⁵ The National Academies of Sciences, Engineering, and Medicine. Workforce Needs in Veterinary Medicine. Retrieved from <https://www.nap.edu/read/13413/chapter/4#8>

²⁶ Clinton L. Neill, Rodney B. Holcomb & B. Wade Brorsen (2018) Current market conditions for veterinary services in the U.S, *Applied Economics*, 50:60, 6501-6511, DOI: 10.1080/00036846.2018.1489518

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³²Association of American Veterinary Medical Colleges. Annual Data Report 2019-2020 [Internet]. Washington, DC: Association of American Veterinary Medical Colleges;2020 January p. 1-62: Retrieved from <https://www.aavmc.org>

³³ Ouedraogo, F.B., Bain, B., Hansen, C., Salois, M.A. Census of veterinarians in the United States (2019) *Journal of the American Veterinary Medical Association*, 255 (2), pp. 183-191.

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