

Summary of Major Findings

Employment and Economic Impacts of Veterinary Medicine in Ohio: An Update



A Study Commissioned by a Partnership
Between The Ohio State University
College of Veterinary Medicine and the
Ohio Veterinary Medical Association

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THE OHIO STATE UNIVERSITY
COLLEGE OF VETERINARY MEDICINE





Summary of Major Findings

This report assesses the scope and impact of veterinary medicine in Ohio. The report updates the 2017 study, “Economic and Social Impacts of Veterinary Medicine in Ohio” by Bill LaFayette and Stephen A. Buser. This update considers only the economic aspects of the earlier study. The study also projects the need for new workforce over the coming decade; this is a new feature in this update.

The work and practices of veterinarians give rise to thousands of jobs and billions of dollars in economic impact. In 2021 the veterinary services industry in Ohio employed 16,541 workers who received wages totaling \$723 million and generated \$1.1 billion in output. Including other relevant industries, total animal-related employment is 57,100 workers who received wages totaling \$3.4 billion and created output of \$8.8 billion.

This direct impact is multiplied to a veterinary services industry contribution of \$2.5 billion in output annually to the Ohio economy and the sustaining of more than 26,000 Ohio jobs. When other supporting and animal-related industries are included, the economic contribution to Ohio’s economy rises to \$19.2 billion annually, including \$7.4 billion in wages, salaries, and self-employment income, and more than 93,000 Ohio jobs sustained. If the animal-related impact did not exist, neither would these supplier and household impacts.

These broader animal-related industries include animal production (farming) and related industries, animal food manufacturing, farm and pet supplies wholesalers and retailers, biotechnology research, racetracks, zoos, and non-veterinary pet care. The impacts also include those of The Ohio State University College of Veterinary Medicine, including the Veterinary Medical Center (VMC). The contributions include the direct output and employment of the industries themselves, as well as the necessary contributions of suppliers, which are referred to as indirect impacts. It also includes the impact of the household spending of direct and indirect workers from their wages and salaries, which they spend on household goods of all kinds. The impact of this household spending is referred to as an induced impact.

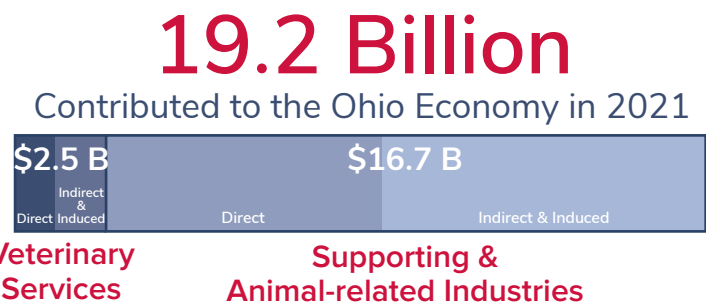
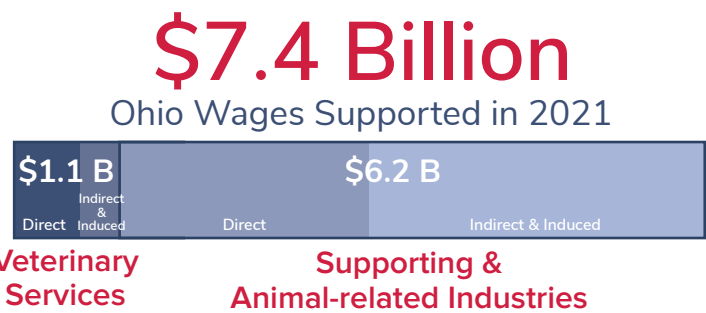


Table S-1: Summary Economic Impacts on the Ohio Economy of Veterinary and Animal-Related Industries and Ohio State Institutions, 2021

Output (thousands)	Direct	Indirect	Induced	Total
Veterinary services	\$ 1,105,862	\$ 450,196	\$ 976,918	\$ 2,532,976
Ohio State (college and VMC)	\$ 88,989	\$ 4,664	\$ 53,783	\$ 147,435
Other industries	\$ 7,576,085	\$ 4,940,386	\$ 4,024,305	\$ 16,540,776
Total	\$ 8,770,935	\$ 5,395,246	\$ 5,055,006	\$ 19,221,187
Earnings (thousands)				
Veterinary services	\$ 723,158	\$ 106,955	\$ 310,452	\$ 1,140,565
Ohio State (college and VMC)	\$ 68,914	\$ 3,000	\$ 41,023	\$ 112,937
Other industries	\$ 2,599,358	\$ 1,868,530	\$ 1,670,621	\$ 6,138,509
Total	\$ 3,391,430	\$ 1,978,485	\$ 2,022,096	\$ 7,392,011
Employment				
Veterinary services	\$ 16,541	\$ 1,906	\$ 7,711	\$ 26,158
Ohio State (college and VMC)	\$ 822	\$ 34	\$ 424	\$ 1,280
Other industries	\$ 39,767	\$ 29,406	\$ 31,764	\$ 100,937
Total	\$ 57,130	\$ 31,346	\$ 39,900	\$ 128,376

Impacts of veterinary services, the College of Veterinary Medicine and the VMC, and the auxiliary animal care industries are shown above in Table S-1. These also include earnings impacts: the wages, salaries and self-employment income earned through direct, indirect and induced activity. Because these impacts do not include animal-related components of broader industries, high school and undergraduate programs, and visitor impacts, these impacts are more likely to be understated than overstated.

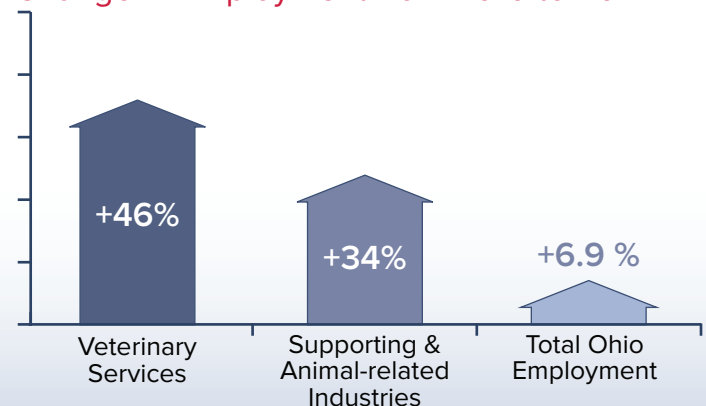
Industry growth and the approaching retirement of veterinarians and other workers in the veterinary medical industry will create a need for more than 24,000 new workers in the industry between 2021 and 2031.

This need is 46 percent greater than total 2021 employment in the industry. More than half of the total need will be for veterinary assistants and technicians, who will take an increasing role in animal care. This mirrors the situation in human healthcare, which is increasingly relying on nurses and others without an M.D. or D.O. to help satisfy the rapidly increasing need for care.

Ohio veterinary services employment in 2021 was 46 percent higher than in 2010, immediately after the 2007-2009 recession. The veterinary auxiliary industries' employment was 34 percent higher. This compares favorably to the total Ohio employment growth across all sectors of 6.9 percent.

In contrast to total Ohio employment, whose growth was only 55 percent of the national average, veterinary services growth was only slightly less than the national average and growth of other animal-related industries was 23 percent greater. Thus, in a small way, these animal-related industries brought the employment growth of the Ohio economy closer to the much faster growth elsewhere in the U.S.

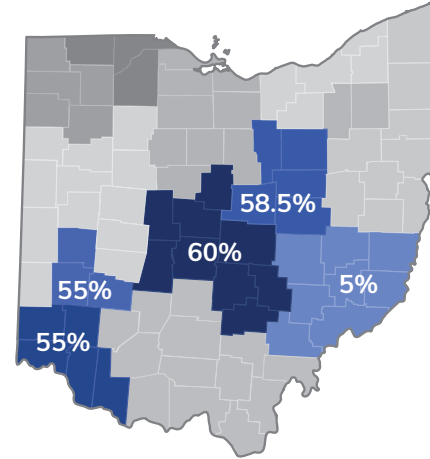
Change in Employment from 2010 to 2021



There are considerable differences in veterinary services employment growth among Ohio regions.

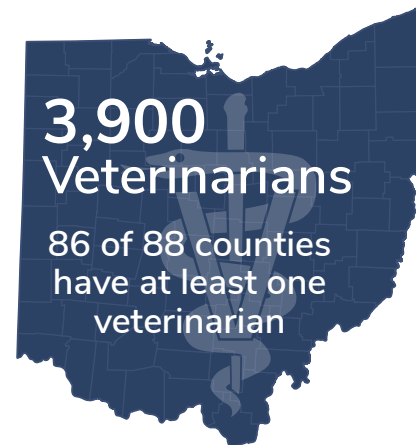
There is at least one veterinary office in 86 of Ohio's 88 counties. Local employment is analyzed by dividing the state into six large metropolitan regions and seven other regions including smaller metropolitan areas and rural counties. Employment in all of these 13 regions was higher in 2021 than in 2010. The Columbus area enjoyed the strongest net growth between 2010 and 2021 with a gain of 60 percent. Columbus growth was followed closely by the East North Central region with a gain of 58.5 percent and the Cincinnati and Dayton MSAs with 55 percent. However, the Southeast gained only 5 percent over those 11 years.

**Veterinary Service
Job Growth in Ohio 2010-2021**



There are 3,930 veterinarians practicing in Ohio. While this number is relatively small, the corresponding economic impact of the veterinary industry in Ohio is remarkably large.

This total from the Ohio Veterinary Medical Association includes both payroll employment and self-employed individuals. Many of these self-employed veterinarians are owners of their own practice. The majority of veterinarians in Ohio, 55 percent, are in private practices focusing on companion animals and another 10 percent treat farm animals or both pets and farm animals. Smaller numbers work in academics and research or are employed by corporations or government. The focus of 21 percent of Ohio veterinarians was not reported.



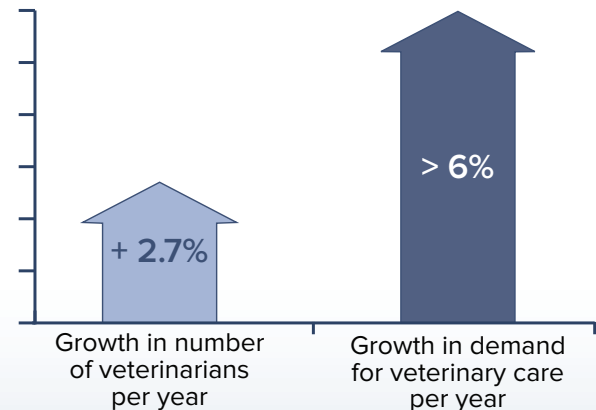
Aging Veterinarian population



Nationwide, 26 percent of veterinarians are 55 years or older and 7 percent are 65 or older. If the same percentages apply to Ohio veterinarians, 1,000 of the 3,900 veterinarians will retire in the next 10 to 15 years.

Growth vs. Demand

Across the country, colleges of veterinary medicine are not training enough veterinarians to meet the needs of their communities.



U.S. colleges of veterinary medicine would need to graduate an additional 250 students per year every year for 10 years (250 in year one, 500 in year two, and so on) to address projected shortages.

Ohio educational institutions offer an array of veterinary and animal care programs beginning as early as high school and continuing through Ohio State's doctoral programs.

Of the 86 high school career and technical education centers throughout the state, 28 offer coursework in animal science or animal care, including five offering a specific program in equine science. At least 27 two-year and four-year colleges and universities in Ohio offer veterinary and animal-related programs and/or certificates, including 20 four-year pre-veterinary programs. Ohio State offers the only doctoral program in veterinary medicine in Ohio, Kentucky, and West Virginia. Additionally, Ohio State offers master's and doctoral degrees in comparative and veterinary medicine, and a master's program in veterinary public health. The veterinary medicine program is ranked third among all North American veterinary schools by *U.S. News and World Report*, the highest-ranked college at Ohio State.

The cost of the four-year DVM degree leads to levels of graduate debt averaging more than \$160,000.

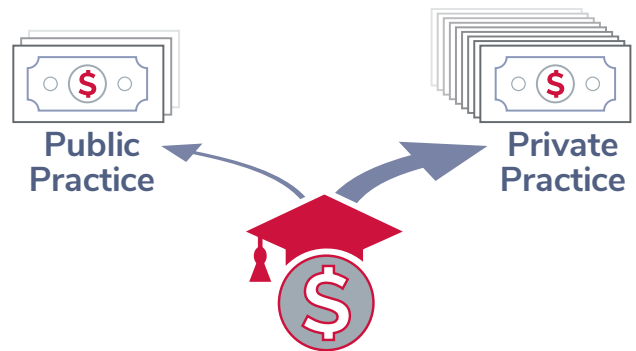
Despite large decreases in average burden in recent years, debt service on the average unsubsidized federal loan is \$1,088 per month or \$13,052 per year over 25 years. This negatively impacts graduates' ability to finance consumption, including adverse impacts on their credit score. A recent study has shown that this debt burden influences the career choice of new DVM graduates, steering them toward more lucrative private practice and clinical training, and away from the critical needs in public practice.

Ohio State also accommodates a robust veterinary research program, some discoveries of which have been commercialized, and one of the largest veterinary medical centers in the U.S.

Researchers in the College of Veterinary Medicine developed the first feline leukemia vaccine and have developed technology used in tick-borne disease diagnostics. Faculty are leaders in the development of advanced animal orthopedic procedures, infectious diseases, food safety, and cancer. The VMC is one of the largest veterinary medical centers in the U.S. and is the only comprehensive referral veterinary medical center for companion animals, farm animals and horses in Ohio, Kentucky, and West Virginia. The veterinary health system cares for more than 80,000 patients annually in six hospitals and on farms across Ohio. The college's Large Animal Services in Marysville, Ohio provides farm-based service to livestock operations across 17 counties.



Loan Debt Steers Graduates toward Lucrative Private Practice



INNOVATIVE AND IMPACTFUL RESEARCH

<p>Leaders of Ohio State's CENTER FOR RETROVIRUS RESEARCH & INFECTIOUS DISEASE INSTITUTE</p>	<p>Supporting vibrant and healthy communities by serving as a global leader in ANTIMICROBIAL RESISTANCE & STEWARDSHIP</p>	<p>Experts in the surveillance, diagnosis, pathogenesis, prevention and treatment of VIRAL DISEASES impacting animal and human health</p>
<p>Groundbreaking research in public health diseases that impact PEOPLE & ANIMALS, like cancer, diabetes and others, to improve health and well-being</p>	<p>A leader in the field of COVID-19 DISCOVERIES, including diagnostic, preventive and therapeutic developments</p>	<p>Collaborative leaders in PROTECTING THE FOOD SUPPLY through research and surveillance to prevent disease and outbreaks</p>
<p>COMPARATIVE & TRANSLATIONAL ONCOLOGY Signature Program conducts research to drive improved outcomes in human and animal patients</p>	<p>Respected source of research and information for prevention, diagnosis and treatment of TICK BORNE ILLNESSES</p>	<p>Blue Buffalo Veterinary Clinical Trials Office has enrolled more than 3,200 patients in the past six years to advance critical discoveries</p>

Conclusion

Veterinary medicine is a vital industry in Ohio, contributing billions of dollars to the state's economy and supporting thousands of jobs. Its impact is widespread, ranging from companion animal clinical practice to animal agriculture, research, biotechnology and much more.

From the veterinary students and faculty at the College of Veterinary Medicine at The Ohio State University to the practitioners taking care of Ohio's pets, horses and farm animals, to veterinarians employed in industry, research and government, the fabric of veterinary medicine supports and serves communities throughout Ohio. The veterinary profession and the college contribute broadly across many disciplines to create a healthier world for animals and people. At the same time, the profession is rapidly approaching a crisis point as demand for service outpaces the rate new practitioners are joining the profession.

This study reaffirms what intuitively has been known by many — that veterinary medicine protects the health of Ohio animals, supports the health of people and contributes significantly to a healthy Ohio economy.

To access the full report, please visit go.osu.edu/cvmesifull on the College of Veterinary Medicine website or visit ohiovma.org/study on the website of the Ohio Veterinary Medical Association.



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