

ACTIVIDAD DE INVESTIGACION:
LA IMPORTANCIA DE LA VETERINARIA EN
LOS DIFERENTES CAMPOS PROFESIONALES

“UNIVERSIDAD DEL SURESTE”

ALUMNO:

JORGE JAIR CRUZ MENDEZ

LICENCIATURA DE MEDICINA VETERINARIA
Y ZOOTECNICA

1^{er} CUATRIMESTRE

PROFESOR EDUARDO E. ARREOLA JIMENEZ

FECHA

27 - SEP - 2025

INGLES I

INDEX

• Summary	(1)
• Introduction.	(2)
• Professional Fields of Veterinary Medicine . . .	(3)
• 1.1 Clinical Veterinary Medicine	(3)
• 1.2 Veterinary Public Health.	(3)
• 1.3 Animal Production.	(4)
• 1.4 Veterinary Scientific Research.	(4)
• 1.5 Teaching and Training.	(5)
• Social and Economic Impact	(5)
• 2.1 Public Health Contribution	(5)
• 2.2 Economic Impact.	(5)
• 2.3 Social Benefits.	(6)
• Challenges.	(6)
• Conclusion.	(7)
• Bibliography.	(8)

SUMMARY

Veterinary medicine plays a central role not only in caring for animals but in numerous professional sectors that impact public health, environmental conservation, food safety, research, industry and economics. This paper examines the multifaceted contributions of Veterinary Science across clinical practice, public health and epidemiology, food/agriculture, wildlife and ecosystem health, pharmaceutical and biotech, industries, research and education, and policy/regulation.

Through reviewing open-access literature, the study highlights how veterinarians are essential in zoonosis control, food-borne disease prevention, welfare of companion and production animals, transdisciplinary research (One Health) and production animals and technological innovation.

Challenges, such as resource constraints, access to research, and gaps in global veterinary infrastructure, are also discussed. The paper concludes that strengthening veterinary capacity and integrating veterinarians into policy, research, and education systems globally is necessary to address emerging global challenges.

INTRODUCTION

Veterinary medicine, traditionally associated with treating pets and farm animals, has evolved into a dynamic discipline with critical roles across various professional fields.

The interconnections among animal health, human health, and environmental health define the modern scope of veterinary work under frameworks such as One Health. Veterinarians today are involved in disease surveillance, food safety, biomedical research, public policy, environmental conservation, and even in social dimensions such as animal welfare ethics. A comprehensive understanding of these diverse roles is essential both for recognizing the profession's societal value and for guiding educational and policy priorities.

This investigation aims to analyze and synthesize how veterinary medicine impacts different professional fields, using open-access sources to ensure transparency and accessibility. Key questions include: What are the main roles veterinarians play in non-clinical sectors?

What contributions do they make to public health, agriculture, wildlife / ecosystem, research, industry and future opportunities.

Professional Fields of Veterinary Medicine

1.1 Clinical Veterinary Medicine

This field focuses on diagnosing and treating diseases in companion and production animals. It includes surgery, internal medicine, dermatology, ophthalmology, dentistry, and emergency care. Examples include orthopedic surgery, minimally invasive procedures, and advanced imaging techniques. Preventive care, such as regular check-ups and vaccination programs, is essential.

1.2 Veterinary Public Health

Veterinary public health seeks to prevent zoonotic diseases, ensure food safety, and control epidemics. Recent examples include **Covid-19**, avian influenza, and rabies outbreaks.

Veterinarians work in governmental agencies, laboratories, and international organizations like **WHO** and **OIE** to monitor diseases, conduct inspections, and educate the public.

1.3 Animal Production

Animal production involves managing livestock breeding for food, fiber, and other products. It includes nutrition, reproduction genetics, and herd health management.

Veterinarians enhance productivity, ensure product quality, and implement sustainable practices to reduce environmental impact while improving animal welfare.

1.4 Veterinary Scientific Research

Veterinary research develops new diagnostics, treatments, and vaccines. Areas of study include biotechnology, genetics, epidemiology, pharmacology, and immunology.

Examples include developing vaccines for emerging diseases, genetic improvement of livestock, and using artificial intelligence in diagnostics.

1.5 Teaching and Training

Veterinary education is delivered through Universities, research Centers, and Continuing education programs.

Modern teaching methods include Online courses blended learning, and International exchanges.

Continuous professional development ensures Veterinarians remain updated with advancements.

SOCIAL AND ECONOMIC IMPACT

2.1 Public Health Contribution

Veterinary medicine protects humans from zoonoses, ensures food safety, and monitors animal disease outbreaks. This has direct effects on public health and safety.

2.2 Economic Impact

Veterinary services support agriculture, pharmaceuticals, pet care, and biotechnology industries. They generate employment and drive rural and urban economic growth.

2.3 Social Benefits

Veterinarians improve animal welfare, prevent disease, and educate communities. Projects like vaccination campaigns and mobile clinics illustrate the social impact of the profession.

Challenges

- Resource limitations in certain regions: fewer veterinarians, less diagnostic capacity.
- Emerging diseases, climate change, land use changes increasing risk.
- Balancing productivity demands with welfare and environmental sustainability.
- Ensuring research output is accessible (open access) and that practitioners can use evidence practice.

CONCLUSION

Veterinary medicine is for more than the care of individual animals; it is foundational to public health, food security, environmental sustainability, research, ethical practice, and regulatory system.

Through their work, security Veterinarians help prevent zoonotic outbreaks, ensure the safety of food supplies, contribute to conservation and ecosystem health, and advance biomedical knowledge with translational implications for human medicine. However, to fully realize this potential, investments are needed in infrastructure, equitable education and training, open access to research, and integration of veterinary expertise in policy making.

Strengthening global Veterinary Capacity is essential for facing emerging such as global pandemics, environmental degradation, and increasing demands on food system.

Bibliography

- 1:- Radoszitis, O.M., GAY, C.C., Hinchcliff, K.W., Constable, P.D. (2007). Veterinary Medicine: A Textbook of the Diseases of Cattle, Horses, Sheep, pigs, and Goats. Elsevier
- 2:- Day, M.J., Horzinek, M.C., Schultz, R.D., Squires, R.A., M.J., Horzinek (2016) Veterinary immunopathology and immunology.
- 3:- World Organisation for Animal Health (OIE) (2024). Terrestrial Animal Health Code.
- 4:- Food and Agriculture Organization (FAO) (2023) Veterinary Public Health and Food Safety.
- 5:- Green, R., Weaver, G., MacLachlan, N (2019) Veterinary Clinical Practice. Wiley - Blackwell.
- 6:- Smith, D., y Jones, T. (2022) Advances in Veterinary Medicine. Academic press
- 7:- World Health Organization (WHO) (2023) Zoonotic Diseases and public Health