ONEHEALTH TRUST

New global study reveals low vaccination coverage in food animals for high risk diseases

The One Health Trust study, out in the leading scientific journal, *PNAS*, provides recommendations to optimize animal vaccination for health, economic, and environmental benefits in low- and middle-income countries.

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Understanding and optimizing the vaccination of livestock

Animal vaccination offers benefits in health, food security, safety, climate change mitigation, and trade, yet is underutilized in low- and middle-income countries.

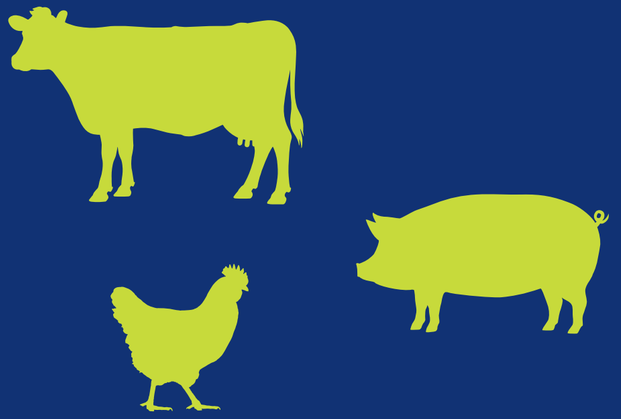
A study in the journal *Proceedings of the National Academy of Sciences* (*PNAS*) presents global estimates and analyses of vaccination coverage for 104 livestock diseases affecting cattle, poultry, and pigs across 203 countries from 2005 to 2025.

Analyzing global livestock disease incidence and vaccination

Using data from the World Animal Health Information System, researchers from the **One Health Trust** (OHT), **World Organisation for Animal Health** (WOAH), **Princeton University**, and the **University of Zürich** calculated the reported disease cases each year. They've also provide a closer look at the 11 diseases most targeted by vaccination programs in 2025.

They show significant shortfalls and variations in animal vaccination globally, and opportunities to increase animal vaccination to maximize the benefits of expanded coverage.

Global vaccination coverage for the highest impact diseases in livestock



Cattle

- **17%** for foot and mouth disease
- **34%** for lumpy skin disease
- **7%** for *Brucella abortus*
- **12%** for anthrax
- **8%** for rabies

Pigs

- **7%** for classical swine fever
- **5%** for anthrax
- **8%** for rabies

Poultry

- **18%** for Newcastle disease
- **17%** for infectious bronchitis
- **9%** for infectious laryngotracheitis
- **15%** for infectious bursal disease
- **9%** for Marek's disease

The greatest reductions in global livestock disease burden would come from prioritizing the expansion of vaccination efforts in

Cattle

in India and Argentina

Pigs

in China and Russia

Poultry

in China, Brazil, and Iran

Livestock Vaccination Benefits

- Increased productivity and economic gains

Vaccines minimize disease-related losses in animal growth and production, particularly in low- and middle-income countries. Sick animals produce unsafe proteins and pose challenges for export and market access.

- Climate change mitigation

Healthier animals enable comparable production with smaller herds, reducing resource use and greenhouse gas emissions.

- Antibiotic resistance control

Vaccination reduces dependence on antibiotics, lowering the risk of antibiotic-resistant bacteria spreading to humans, animals, and the environment. This is crucial as antimicrobial use in livestock and demand for animal products, especially in Asia, Africa, and South America, is expected to increase significantly.

The researchers call for urgent action.

Improve animal vaccine efficacy.

Scale up vaccine production capabilities to secure lower prices.

Expand research to understand what factors play the biggest roles in determining vaccine efficacy and vaccination campaign efficiency in low- and middle-income countries.

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The study “Global Vaccination Coverage and Disease Incidence in Cattle, Pigs, and Poultry” is available in *PNAS*.