

Agonizing rabies deaths can be stopped worldwide

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This image shows members of the Allen School and the Serengeti Health Initiative, who have vaccinated as many as 1,000 dogs a day in Tanzania. From left: Machunde Bigambo, asst. project manager; Guy Palmer, Allen School director, Imam Mzimhiri, project manager and veterinarian, Paulo Tembo, field Assistant and mechanic; Felix Lankester, East-Africa based researcher, Allen School. Credit: The Allen School, WSU

The deadly rabies virus—aptly shaped like a bullet— can be eliminated among humans by stopping it point-blank among dogs, according to a team of international researchers led by the Paul G. Allen School for Global Animal Health at Washington State University.

Ridding the world of rabies is cost-effective and achievable through mass dog vaccination programs, the scientists report in a paper that appears in the Sept. 26 issue of *Science* magazine. What's more, they write, because infections occur as a result of interactions between animals and people, a "One Health" approach is necessary, where veterinary, medical and public [health](#) professionals collaborate to eliminate the disease worldwide.

Publication of the article, "Implementing Pasteur's vision for rabies elimination" coincides with the 119th anniversary of French scientist's Louis Pasteur's death and a global campaign to wrench an ancient disease in the shadows to the forefront.

A [rabies vaccine](#) has long existed, developed by Pasteur in 1885. Even so, the disease kills an estimated 69,000 people worldwide—that's 189 each day. Forty percent of them are children, mostly in Africa and Asia. The disease is spread primarily through the saliva of infected dogs. Once a person develops symptoms, the chance that he or she will die is nearly 100-percent.

"The irony is that rabies is 100 percent preventable. People shouldn't be dying at all," said veterinary infectious disease expert Guy Palmer, who directs WSU's Allen School and is co-author of the paper.

The disease persists, partly due to political complacency but also because of a lack of international commitment, researchers state in the article. And yet, eliminating it "meets all the criteria for a global health priority: It is epidemiologically and logistically feasible, cost-effective and

socially equitable," they conclude.

The authors cite the success of mass dog vaccination clinics held in the East African country of Tanzania. Working in 180 villages, members of the Allen School and the Serengeti Health Initiative vaccinate as many as 1,000 dogs in a single day. Since the program began in 2003, the number of people killed by rabies has dropped from an average of 50 each year to almost zero, according to Allen School researcher Felix Lankester, based in East Africa, who is the paper's lead author. Vaccinating 70-percent of the dogs in the region broke the route of transmission from dogs to humans, he explained.

Though human [rabies](#) is rarely seen in developed nations that conduct mass dog vaccination programs, the disease should be viewed as a global public health problem that can be solved, writes Lankester, Palmer and co-authors from the Nelson Mandela African Institution of Science and Technology, the University of Glasgow in Scotland and the Global Alliance for Rabies Control.

More information: "Implementing Pasteur's vision for rabies elimination" *Science*, 2014. www.sciencemag.org/lookup/doi/10.1126/science.1256306

Provided by Washington State University

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