

[Announcer] This podcast is presented by the Centers for Disease Control and Prevention. CDC – safer, healthier people.

[Dan Rutz] I'm Dan Rutz, here with Dr. Nina Marano, a veterinarian and Chief of the Geographic Medicine and Health Promotion Branch in the Division of Global Migration and Quarantine here at CDC. Nina also serves as guest editor for *Emerging Infectious Diseases*, and the Journal's April issue features an article about the human benefits of animal interventions for zoonosis control.

Nina, please provide a brief definition of a zoonotic disease, or zoonosis, for those who might not be familiar?

[Nina Marano] Thanks, Dan. Zoonotic diseases are those diseases and infections which are transmitted between animals and humans. Transmission can happen directly from an animal to a human, via blood, or through skin contact, or inhalation, or indirectly when the animal infects something else, like food or water, and the person then ingests the infected material.

[Dan Rutz] Nina, this article discusses the control of zoonotic diseases in resource-limited developing countries by focusing on animal vectors. Give us some examples, please, of how treating disease in livestock and pets can help control the spread of these diseases?

[Nina Marano] Sure. Let's talk about rabies, a disease that we've known about for a long time. In the US, animal control and vaccination programs begun in the 1940s practically eliminated domestic dogs as reservoirs of rabies in the US. The US also has begun vaccination of raccoons, one of the principal wildlife reservoirs.

However, in Africa and Asia, between 24,000 and 70,000 people die every year from rabies, mostly from dog bites. Rabies in humans can be prevented by giving people post-exposure vaccinations and antibodies after they've been bitten, but this is very expensive, and it's not without risk to the recipient. In the article, the authors showed that rabies in humans can be prevented much more inexpensively just by vaccinating the dog reservoir.

Another example is brucellosis, a serious disease transmitted to humans by infected cattle through direct contact of tissues of birth or by consuming unpasteurized products from infected cattle, like milk or cheese. The authors were again able to show that vaccinating cattle to prevent brucellosis is much more cost effective from a societal perspective than vaccinating women or children or treating people who have brucellosis.

[Dan Rutz] What role might education of local populations play in containing these outbreaks of zoonotic diseases?

[Nina Marano] Public health educational campaigns are very important everywhere, but even more so in countries where it may be hard to find doctors and medicines to treat people after they become ill. Simple educational messages—like wash your hands after handling animals, wear gloves when handling animals and animal products, boil milk before consuming it, don't

approach stray dogs—these messages can be very effective in preventing transmission of zoonotic diseases.

[Dan Rutz] Many emerging diseases are first discovered in developing countries, where lack of resources and education may contribute to their spread. With increasing globalization, though, it's become much easier for these diseases to spread worldwide. That means it's important for industrialized countries to play a role in containing outbreaks of zoonotic diseases in developing countries. Now, how can this be accomplished?

[Nina Marano] You're right, Dan, we're indeed a 'world in motion.' With the global movement of people, animals, and products, the chance for translocation of disease from one part of the world to another through travel and transportation increases all the time. In the conclusion to this article, the authors state that industrialized countries should recognize that it's their responsibility to assist less well developed countries with technical expertise and resources to improve the capacity to detect, prevent, and control zoonotic diseases. The authors call on the World Health Organization, and the World Organization for Animal Health, and the Food and Agriculture Organization to collaborate on ways to help control zoonotic diseases in developing countries.

[Dan Rutz] Nina, we thank you for your comments and appreciate your perspective on these findings.

Our discussion with Dr. Marano was prompted by an article on zoonoses in the April 2007 issue of *Emerging Infectious Diseases*. This article, and others on emerging bacterial and viral diseases, is online at [www.cdc.gov/eid](http://www.cdc.gov/eid)

And, you can submit your comments on this interview to [eideditor@cdc.gov](mailto:eideditor@cdc.gov). That's eideditor, one word, at [cdc.gov](http://cdc.gov).

For *Emerging Infectious Diseases*, I'm Dan Rutz.

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