

Can Saving Animals Prevent the Next Deadly Pandemic?

A global disease monitoring network is banking on the idea that healthier wildlife means healthier humans



Fruit bats are thought to be the natural host for the Ebola virus. Groups like USAID PREDICT regularly monitor such diseases in wildlife to prevent the jump from animal to humans. (iStock)

In the fall of 2014, the deadly Ebola virus jumped from an unknown animal to a 2-year-old boy in Guinea. The virus quickly spread to others around him and began terrorizing West African nations; by April 2016, [more than 11,000 people](#) had died. Researchers now believe that fruit bats were the origin of this zoonotic disease—which refers to any disease that makes the jump from animals to humans (or vice versa), and includes [around 75 percent](#) of all emerging infectious diseases.

Zoonotic diseases are at the root of some of the world's worst pandemics. [Bubonic plague](#), for instance, originated in city rats, and was usually transferred to humans via an infected flea bite. HIV/AIDS started as a virus in [Old World monkeys in Africa](#). The more recent swine flu, while less fatal, has been traced back to [pigs raised for food](#) in North America. The Spanish Influenza of 1918 [has been traced back to birds](#) and killed around 50 million people, more than twice as many as were killed in World War I.

Yet the Ebola outbreak, bad as it was, could have been much worse. In August of that same year, another scare quietly took place in the Équateur Province of the Democratic Republic of the Congo. But [in that case](#), just 49 people died, and the World Health Organization declared the end of the outbreak within three months. This remarkable success was thanks to fast action by local governments, medical partners and a relatively new global disease surveillance network known as [USAID PREDICT](#).

Part of the way PREDICT prevents outbreaks is by monitoring diseases in animals, in the hopes of keeping viruses from crossing over to humans. So far the group has provided support during 23 outbreaks and four wildlife epidemics; it also creates vaccines for domestic livestock like poultry. This is all part of the “one health” theory that undergirds the program: When wildlife and ecosystems are healthy, and diseases are diluted, humans are healthier, too.

Which means that the immediate goal of human health comes with a nice side effect: wildlife conservation.

“When you disrupt an ecosystem by removing a species through culling, you have a less healthy ecosystem and higher risk of disease,” says Megan Vodzak, a research specialist for Smithsonian’s Global Health Program.

While this work undoubtedly helps the animals suffering from these pathogens, it could also have benefits for humans. “Not only are we responding to save ecosystems and endangered animals, we’re also the first line of defense with regards to identifying potential zoonotic diseases,” Holder says.