

Zoonotic Diseases

The World Health Organization defines zoonosis as “any disease or infection transferrable to humans from vertebrate animals.” Throughout human history, numerous zoonotic diseases have been experienced and societies have struggled to maintain and control the spread of such diseases. One example is the infectious West Nile virus, which infects birds and travels through mosquitoes to humans. Other examples include Ebola, which is known to originate from fruit bats, and the swine flu, which was thought to only affect pigs but graduated to humans. The emergence and prevalence of these diseases can cause disarray in our public health systems.

As the current example of the deadly nature of zoonotic diseases, COVID-19 has brought the world to a near standstill for the last few months. Its nature and effects call into question the impact of zoonotic diseases and how humans are contributing to their presence. The National Center for Biotechnology Information has traced the origins of zoonotic diseases to human actions in technology, commerce, industry, international travel, agriculture and land use. For example, deforestation and aggressive land use destroy habitats and allow certain organisms to thrive. In fact, improper land use is a leading cause of the increased presence of mosquitoes which carry the Zika virus, West Nile Virus and the malaria parasite. While these changes have fostered globalization and an increased standards of living, they have also led to the destruction of ecosystems and contributed to climate change.

Although many mysteries remain, scientific research is working to advance our understanding of zoonosis. Meanwhile, American public health systems are still not equipped to handle these epidemics when they arise. The demand for more medical professionals, medical equipment and the availability of drugs can quickly overwhelm health care institutions. Additionally, social inequalities are a major impediment to proper health care for many and increase the risk of falling victim to zoonotic diseases, thereby putting themselves and others at risk. Hopefully, research focusing on climate change will allow us to better manage future outbreaks of zoonotic disease.

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Information gathered from: “Swine Flu (H1N1),” Healthline(<https://www.healthline.com/health/swine-flu#1>); Joshua Lederberg’s “The Emergence of Zoonotic Diseases: Understanding the Impact on Animal and Human Health” in the *National Center for Biotechnology Information* and *National Academies Press*; Rupa Mukerji’s “Pandemics are indicators of ecosystem damage as storms are of climate change” in *Reliefworks*, May 26, 2020; “Sustaining Global Surveillance and Response to Emerging Zoonotic Diseases” in *National Academies Press, Drivers of Zoonotic Diseases* and the *National Center for Biotechnology Information*; Jeanne M. Fair, Dr Carrie Manore, Dr Chonggang Xu’s “Climate change is driving the expansion of zoonotic diseases” in Research Gate; PJ Levin, Eric N. Gebbie, Kristine Qureshi’s “Can the health-care system meet the challenge of pandemic flu? Planning, ethical, and workforce considerations” *Public Health Reports*, Sep-Oct 2007.