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Viral Zoonoses in Germany: What Lurks in the Reservoirs?

Thursday 11 September 2025 09:30 (45 minutes)

Viral zoonoses pose a persistent and evolving threat to public health in Germany, where various animal reservoirs harbor significant pathogens. Wild birds play a central role in the ecology of highly pathogenic avian influenza viruses, such as H5N1. Recurrent outbreaks affect wild birds and domestic poultry, and spillover infections in different mammalian species occur. Swine are important reservoirs for swine influenza viruses, which have the potential to reassort and transmit across species. Birds and mosquitoes maintain the circulation of the West Nile virus, a pathogen that has become established in parts of Germany in recent years. Additionally, shrews are recognized as natural hosts of Borna disease virus 1, a rare but severe zoonotic pathogen. Ticks and small mammals sustain the transmission cycle of the tick-borne encephalitis virus, an endemic flavivirus with an increasing incidence in humans in Germany. Beyond these established risks, novel threats may emerge. For instance, biting midges (*Culicoides* spp.) and ruminants could transmit exotic arboviruses, such as the Oropouche and Shuni viruses. These potential incursions raise concerns under changing climatic, ecological, and globalization conditions. In this context, we will discuss the various zoonotic risks, emphasizing the indispensable role of the One Health approach in surveillance, prevention, and research efforts.

Keywords

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Professional Status of the submitter, who is also the speaker

Professor

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