

BANGLADESH: NIPAH VIRUS AND HUMAN DISRUPTIONS

Nipah virus (NiV) is a paramyxovirus that causes severe illness characterized by encephalitis or respiratory disease. Human actions to support the current demand of the market is a detriment to high impact areas of Nipah Virus.

WHERE IS NIPAH VIRUS FOUND?



- In 1999, Nipah virus was first seen in an outbreak in Malaysia and Singapore.
- Nipah outbreaks have only been reported from Bangladesh, India, Malaysia, the Philippines, and Singapore.

HOW IS NIPAH VIRUS TRANSMITTED?

- Humans are able to contract Nipah virus from fruits and agricultural products contaminated by fruit bats.
- Coming into contact with the feces or bodily secretions of infected animals.
 - Usually pigs and livestock

WHO IS IMPACTED?

- **Working with pigs** is the most common way for Nipah virus to spread in Malaysia and Singapore
- **Individuals exposed to people with the virus** like family members, caretakers, and healthcare workers
- **Individuals who climb trees where infected bats often stay** means higher exposure time to bats who could be infected with Nipah virus



ENVIRONMENTAL CONDITIONS

- **Habitat loss:** With the rise of deforestation, fruit bat habitats are continuously depleted
 - Bats are then forced to live in places closer to humans.
- **Extreme weather:** Typhoons and extreme drought change the ecological composition of high impact areas in Asia
 - This facilitates new habitats for animals that carry Nipah virus, leading to higher transmission rates.
- **Livestock operations:** Warmer climates diminish grazing lands in high impact areas.
 - Results in more densely populated grazing areas, causing rapid spread among livestock.

PREVENTION AND TREATMENT

- **Prevention:** Limit exposure to fruit bats in areas where Nipah virus is known to circulate. Do not engage in agricultural production in areas that have Nipah virus circulating. Wash hands frequently with warm and soapy water.
- **Treatment:** No treatment available; Supportive care can be used to make an infected individual's remaining life more comfortable.
- **Clinical Treatment:** "Ribavirin, m102. 4 monoclonal antibody and favipiravir are the only antivirals with some activity against Nipah virus."

TAKING ACTION: BANGLADESH SYSTEMS STRENGTHENING FOR ONE HEALTH ACTIVITY



- Bangladesh Systems Strengthening for One Health Activity is a policy initiative centered around enhancing the country's capacity to prevent, detect, and respond to emerging infectious and endemic zoonotic diseases.
- Sample activities (that include community action) are as follows:
 - Develop informational campaigns to spread awareness about proper mitigation strategies for Nipah virus.
 - Ensure that national and local laboratories have the capacity to detect pathogens and diseases in animal, human, and environmental contexts.
- Strengthens current governance structures and multisectoral platforms to enhance human resources for One Health by optimizing resources through network mapping, conducting workforce gap analysis, strategic planning, and creating career development pathways.
- Develops existing surveillance systems for human and animal health.

SYSTEM STRENGTHENING AND ITS CLIMATE CONNECTION

- The implementation of improved surveillance systems will allow for health officials to track trends in infection rate
 - If trends appear in areas that are known to have high rates of deforestation and flooding, Bangladesh's Ministry of Health will allocate additional support to those areas
- Since Nipah transmission is linked to consuming contaminated raw date palm sap, the initiative's campaigns discourage this practice, especially during the winter harvest season when bats frequently interact with sap-producing trees

