

# One Health and Pandemic prevention in an Asia context

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Organization**

Representative Office  
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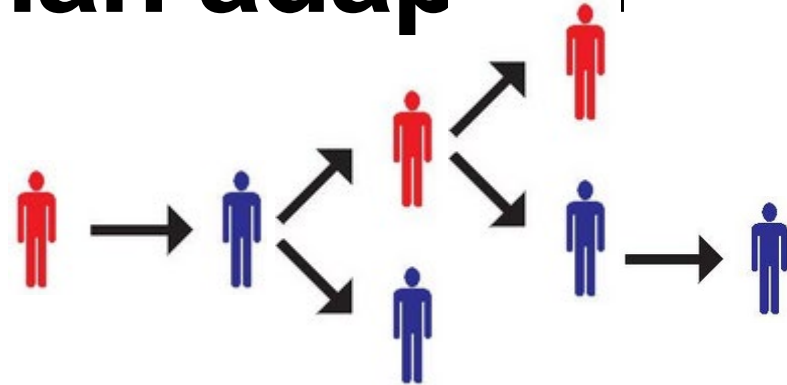


# Why is focusing on human health not enough?

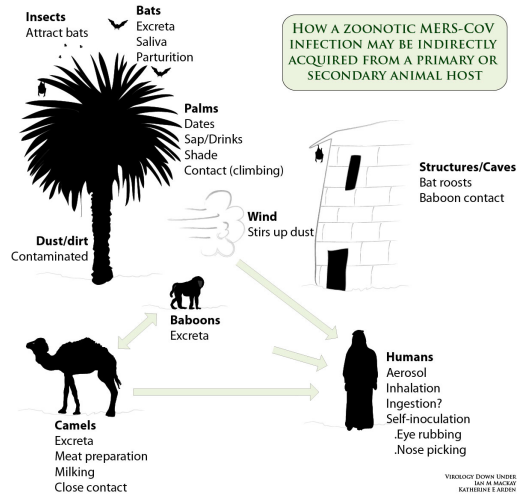


# From zoonosis to human adapted

SARS



MERS



Ebola

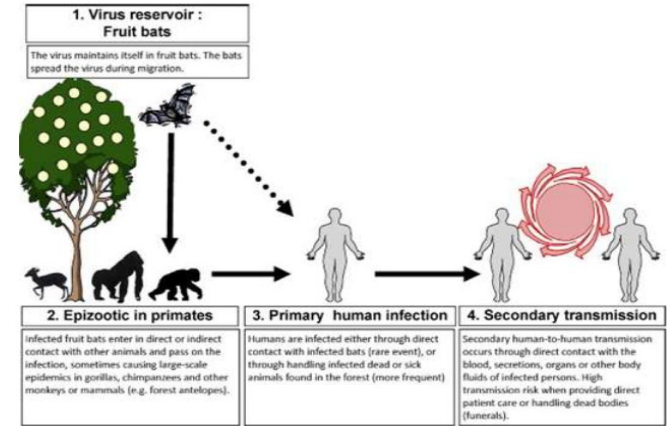
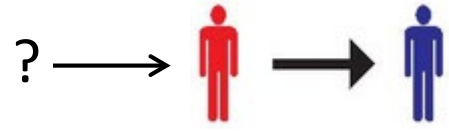


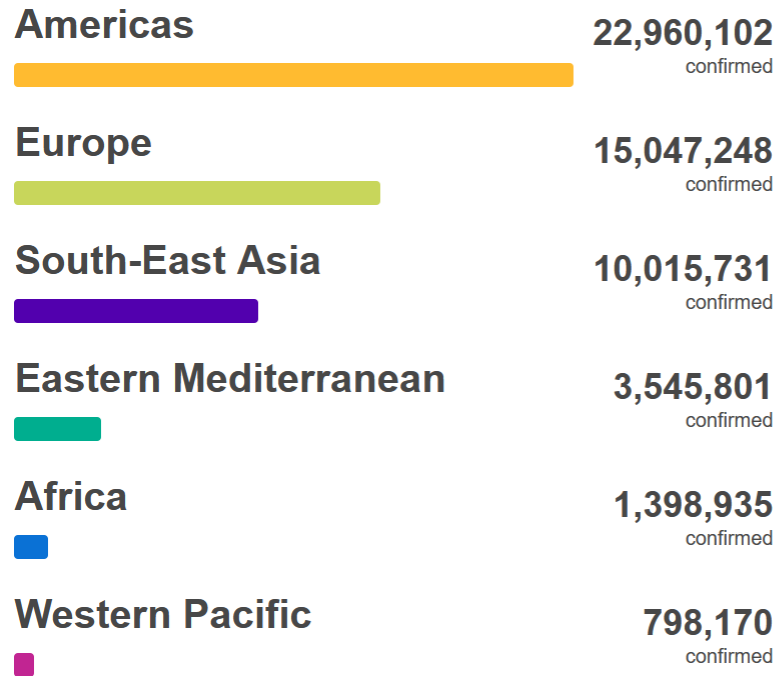
Figure 2. Transmission cycle of the Ebola Virus (Rodriguez et al., 1995).

COVID-19



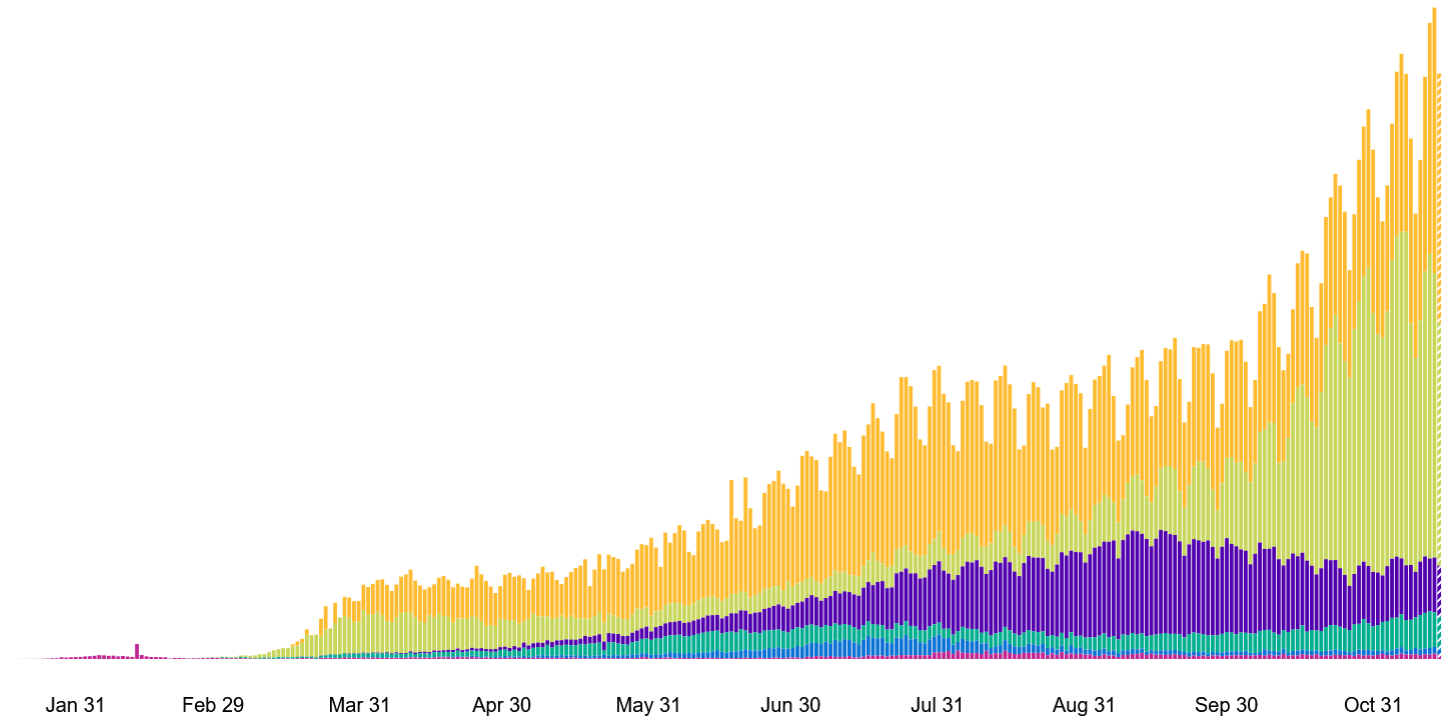
# ~54 million confirmed cases of COVID-19

## Over 1.3 million deaths



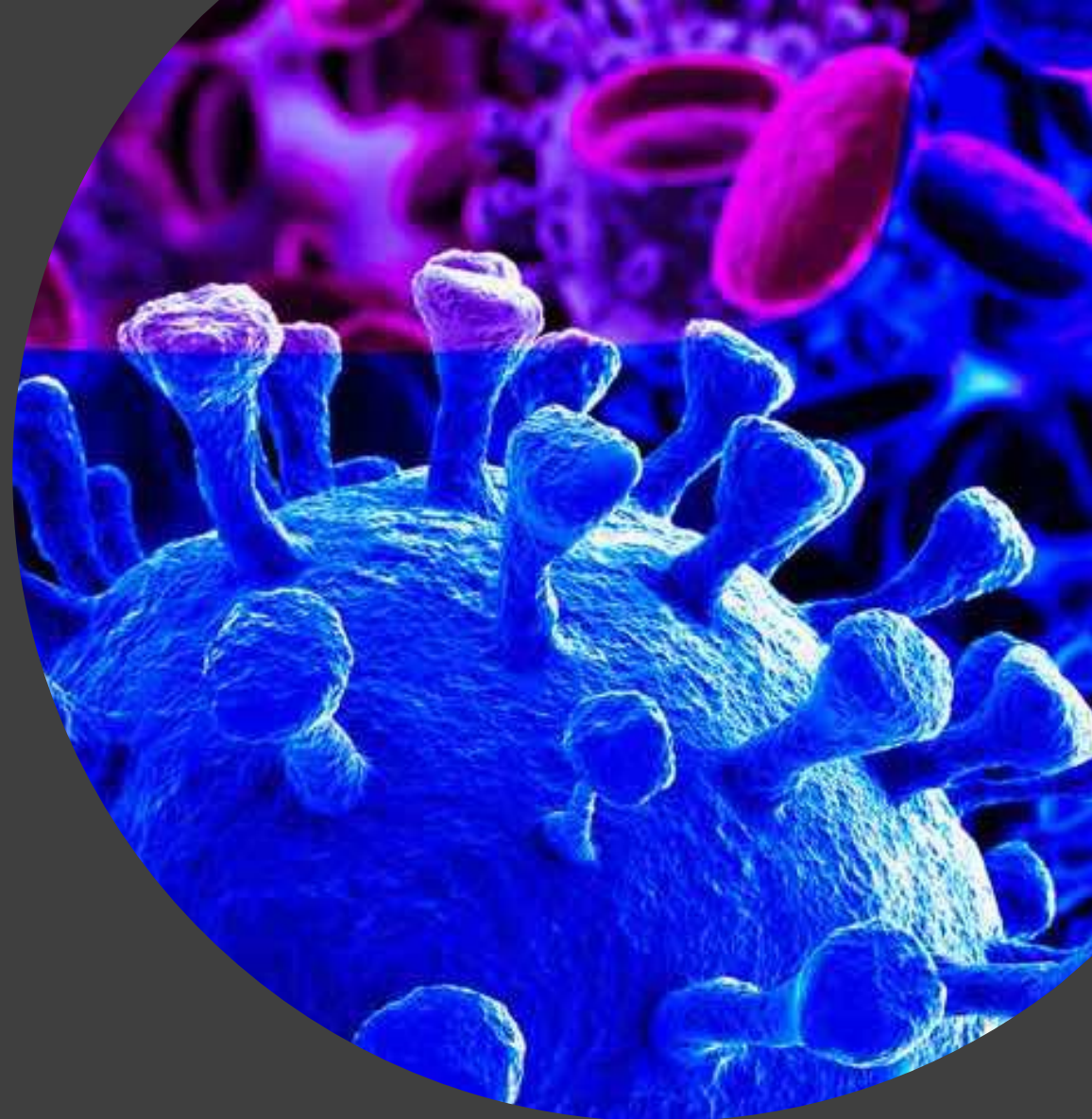
Source: World Health Organization

/// Data may be incomplete for the current day or week



# Predict, prevent and control zoonotic EIDs

- Priority actions:
  - Fully characterise the causative viruses
  - Understand mammalian viral persistence
  - Understand the conditions / stressors for host viral shedding and transfer pathways of spread
  - Conduct human, animal and environmental surveillance
  - Determine control options with clear measurements of outcomes and success
  - Conduct applied research to address the unknowns



# Human behaviour drives epidemics

- Human encroachment into new ecological niches, including destruction of habitats
- Poor biosecurity practices in many countries
- Slaughter and consumption of wildlife e.g. bush meat (Ebola), civets (SARS)
- Multiple species under stress in wet markets
- Changes in food production e.g. BSE and vCJD
- Misuse of antibiotics
- Effects of climate variability and climate change
- **Health facilities as points of amplification** once efficient human transmission is established



# Multidisciplinary, Multisectoral, Multilevel

- Locally acquired zoonotic diseases may be of low incidence in the Pacific island countries and areas BUT
- Establishing intersectoral relationships before the next BIG EVENT that requires a well-coordinated response
- Cross-sectoral surveillance, monitoring and data sharing across fields of ecology, human & animal health (public health, epidemiology, clinical medicine, laboratory sciences, mammology, sociology, economics etc.
- Livestock, wildlife, companion animals
- Central role of risk communication and community engagement

# Examples

- Avian influenza (HxNy) and reassortant avian-swine-human influenza viruses
- Henipaviruses (Hendra, Nipah)
- Lyssaviruses (rabies, other)
- Coronaviruses (SARS, MERS, COVID-19)
- Arboviruses (Zika, dengue, many others)
- Antimicrobial resistance (AMR)
- Food-borne diseases and intoxications (e.g. ciguatera)
- Water related diseases e.g. leptospirosis etc.

