

COVID-19 pandemic: zoonotic diseases from wildlife trade & consumption and intensive livestock farming

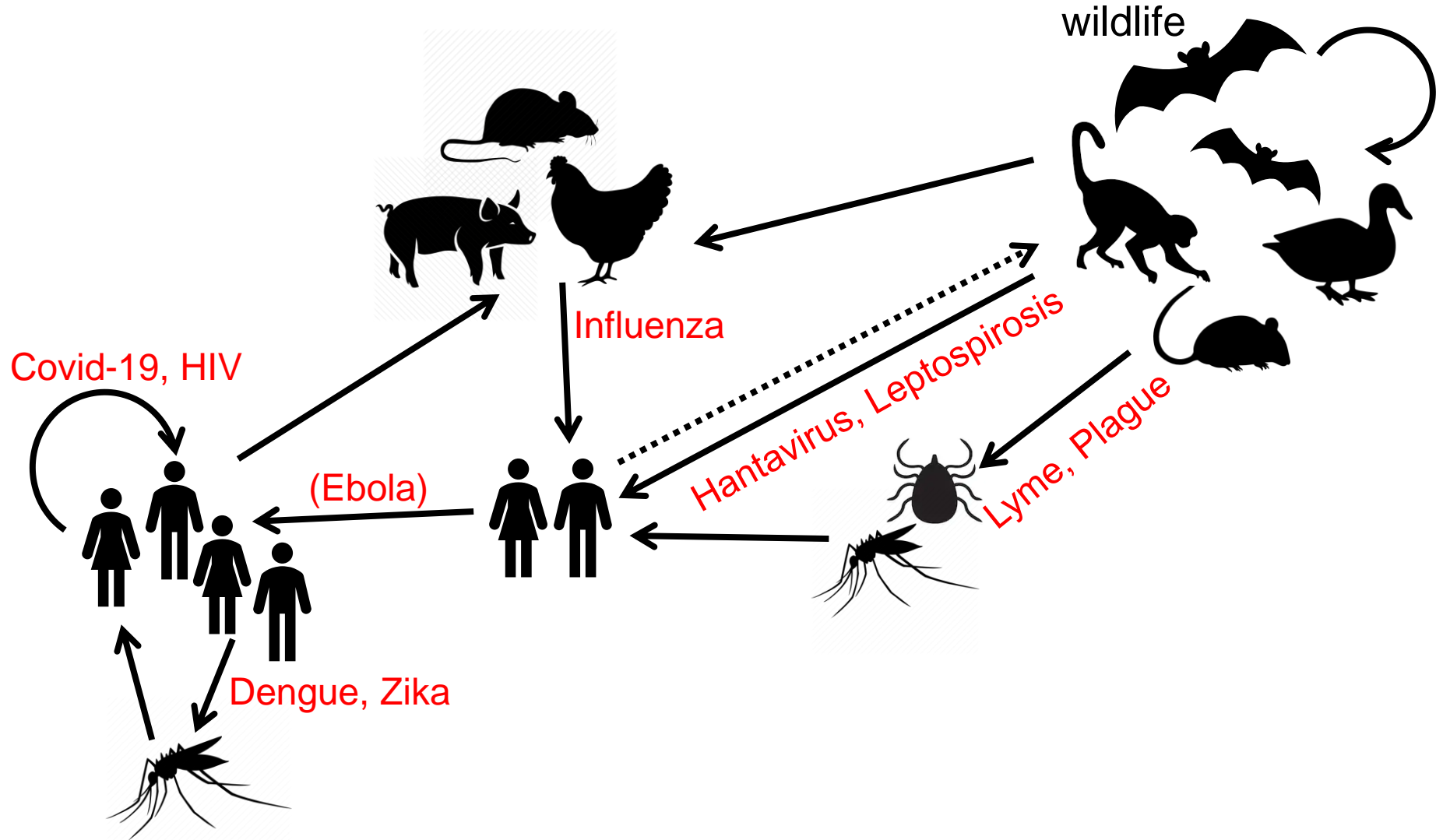


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Zoonosis = infection naturally transmitted from vertebrate animals to humans



70% of new and (re-)emerging infectious diseases are of zoonotic origin

Global hotspots for emerging infectious diseases that originate in wildlife



Contributing factors:

- high biodiversity
- high densities
- phylogenetic relationship
- genetic diversity pathogen
- disturbed habitats
- human-animal contacts
- (international) mobility of humans, animals

SMALL PROBABILITIES
BIG CONSEQUENCES?

Import of exotic pets: case study Monkeypox

Monkeypox introduction to the USA (2003):
at least 47 cases in 6 Midwest states



people infected through contact/bites
with infected pet prairie dogs
no human-to-human transmission

prairie dogs infected after being kept in
close contact to African rodents in an
Illinois pet shop

800 small mammals imported from
Ghana to Texas
9 species, 3 infected with monkeypox



Infections acquired from import of exotic animals happen, how worried should we be?

Risk = probability (hazard) x impact (consequences)

Risk (probability) depends on

- imported species
- origin of the animals
- type of animal (products)
 - live animals
 - bushmeat
 - research samples
 - other animal products
- preservation:
 - fresh/frozen
 - smoked/cooked
 - pickled or lab solution
- fate after arrival
 - pet
 - food chain
 - research laboratory

Risk (impact) depends on

- infectivity
- human-human transmission?
- pathogenicity
- detection delay
- treatment/vaccination
- public health system
- veterinary system