



NEXT THREAT: 'Enormous' step forward in hunt for Disease X as scientists narrow down 70 culprits in race to prevent next pandemic.

Plus, the nine other biggest pandemic threats - from Ebola to Zika.

By **Isabel Shaw**, Published: 17:17, 5 Feb 2024

SCIENTISTS have narrowed down the next pandemic threat to just 70 virus families in an 'enormous' step in the hunt for Disease X. The [World Health Organisation](#) (WHO) has previously warned the hypothetical pathogen could kill 20 times more people than the [Covid pandemic](#) did.

Scottish boffins found that a human virus - one that spreads between humans easily - is the bug most likely to be [Disease X](#).

Disease X represents a hypothetical, currently unknown pathogen, which was added to the WHO's [list of nine priority diseases in 2018](#).

The United Nations agency adopted the placeholder name to ensure that their planning was sufficiently flexible to adapt to disease.

Previously, experts believed the next pandemic was likely to stem from a zoonotic disease, which jump from animals to humans - but rarely human-to-human.

They feared mutations to the viruses that make human-to-human transmission easier could mean they could begin infecting humans.

The UK Health Security Agency has already started trialling the world's first jab for [Crimean-Congo haemorrhagic fever](#) after a case of the deadly disease was spotted in Britain last year.

Some have even warned that Disease X may be caused by a biological mutation, an accident, or a terrorist attack that takes the globe by surprise and spreads rapidly.

The new study, published in the journal *Molecular Biology and Evolution*, identified 70 virus lineages – groups of related viruses – that pose the biggest risk.

Scientists from the University of Edinburgh, Liverpool and Peking University in China looked at the family tree of 743 distinct viruses to determine which could become Disease X.

The findings showed that viruses that can already spread within human populations were more likely to become endemic.

Professor Mark Woolhouse, Professor of Infectious Disease Epidemiology at the University of Edinburgh, said: "Out of potentially huge numbers of mammal and bird viruses in circulation, we should concentrate on the ones related to existing human viruses with epidemic potential.

"This research narrows the search for the next Disease X enormously."

World leaders gathered last month to discuss the deadly and mysterious disease dubbed Disease X that could spark the next pandemic.

A panel chaired by WHO president Dr Tedros Adhanom Gehreyesus looked into new efforts to prepare healthcare systems for the "multiple challenges ahead".

Scientists said Disease X is "as infectious as measles with the fatality rate of Ebola" and that preparations had already started for an outbreak.

The WHO feels it "is more of a probability rather than possibility" that it will hit.

Meanwhile, scientists [have already fired up Britain's world-beating new vaccine lab](#) amid fears the unknown Disease X will trigger another global pandemic.