

## The Next Pandemic

### Why in news?

The WHO Director-general at the 76th world health assembly has cautioned against the threat of emerging pathogens.

### What is a pandemic?

- A pandemic is a disease outbreak that spreads across countries or continents.
- COVID-19 is one such pandemic in recent years, which led to waves of infections and deaths in all countries.
- The World Health Organisation (WHO) declared that COVID-19 was no longer a [Public Health Emergency of International Concern](#).
- The virus continues to have reservoirs in animals, but the likelihood to turn into a pandemic or public health threat is small.

### How do pandemics happen?

- **Air travel** - Ease of travel makes it likely for infections to spread to a large number of populations and countries.
- **Urbanisation** - Large number of people living in close proximity.
- Travel and density of population has played a role in previous pandemics as well.
- The Spanish Flu of 1918 happened towards the end of World War I and spread through congested and overcrowded camps.
- The deadliest pandemic Black Death is also thought to have come to Europe with rats that were aboard trading ships.

### How has climate change impacted outbreaks and pandemics?

- Climate plays several roles in outbreaks and pandemics.
- Deforestation and encroachment of habitats of other animals has brought the humans and animals closer.
- This increased human-animal interactions has led to more zoonotic transfer of diseases.
- The climate itself may change the habitats of the disease-carrying vectors.
- For example: The geographical range of dengue in the country expanded to hilly and colder regions.
- Climate change also leads to extreme weather events that can displace people and force them to live in poor hygienic conditions.
- Climate change may increase the risk of '[viral spillover](#)' in some regions that could cause new pandemics.

## What are pandemic potential pathogens?

- **Pandemic potential pathogens** - The bacteria, viruses, or microorganisms that are highly transmissible capable of spreading unchecked amongst humans and highly virulent capable of causing severe disease and death.
- Coronaviruses are one such pathogens that has pandemic potential.
- **Priority List** - The WHO has a priority list of pathogens that are pandemic potential and don't have adequate drugs and vaccines against them.
- This list acts as the basis for prioritising research for developing diagnostics, drugs, and vaccines for these diseases.
- The list includes -

WHO Blueprint priority disease	Fatality rate	Recent outbreaks
CCHF	10%–40% <sup>38</sup>	Pakistan, 2010. <sup>39</sup>
Filoviruses (Ebola and Marburg)	24%–90%	West Africa, 2013–2016 and DRC 2017 and 2018 (Ebola). Uganda and Kenya, 2017 (Marburg).
Lassa fever	1–15% <sup>43</sup>	Annual recurring outbreaks in West Africa. <sup>44</sup>
MERS-CoV	~35%	Saudi Arabia, 2013–2018. South Korea, 2015.
SARS	~10% <sup>47</sup>	Global, 2003. <sup>47</sup>
Nipah and henipaviral diseases	~30%	Bangladesh, 2004. India, 2018. <sup>50</sup>
Rift Valley fever	<1% <sup>51</sup>	Republic of Niger, 2016. <sup>51</sup>
Zika virus disease	Not fatal	South and North America, 2015–2016.
Disease X		

- The list also includes '[Disease X](#)' which represents a serious international epidemic could be caused by a pathogen currently unknown to cause human disease.

## What is the way forward?

- The countries and healthcare systems are required to prepare for such future pandemics.
- A one-health surveillance that can track outbreaks in both human and animal

population.

- Recently, the WHO has launched the [International Pathogen Surveillance Network \(IPSN\)](#).
- Government should ensure sanitation and hygiene to reduce infection risks.
- There is a need to keep the health systems ready for a health emergency including systems to quickly come up with diagnostics, drugs, or vaccines.
- **Similar Topics** - [WHO's Pandemic Treaty](#), [India's APPI and AHSSOH](#)

## References

1. [IE - Why the WHO Director-general has cautioned against the threat of emerging pathogens](#)

